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WASHINGTON MEDICAL ANNALS

MEDICAL SECTARIANISM.

By John Benjamin Nichols, M. D.,

Washington, D. C.

*Presidential address before the Medical Society of the District of Columbia, December 11, 1912.**

An address such as that required by this Society of its retiring presidents affords a fitting opportunity for an expression of appreciation of the honor conferred by election to its highest office. The presidency of this Society is one of the highest local medical honors attainable; and as, in the organization of the American Medical Association, it is coördinate with the presidency of the State medical associations, it confers a status and dignity exceeded only by office in the national body. While our territory is small our Society is vigorous, and no less than fifteen of the State associations have a smaller membership than ours. To have been chosen, however unworthily, out of a membership of nearly six hundred excellent men and women, to be for a year the head of this venerable and active Society is an honor which I have keenly appreciated. I take this occasion to express my gratitude to the Society for it, and my appreciation of the willing helpfulness and consideration uniformly extended to me (or to the office as embodied in me) by the officers and members. The year has been one of pleasant duty, and its memories must ever be cherished among my choicest recollections.

The affairs of the Society during the past year seem to have been in satisfactory condition, and call for little comment.

The provision in our constitution for sections will, I believe, afford a feasible scheme for the organization of sections whenever sufficient demand develops to assure their successful maintenance. Such demand has not yet to any great extent materialized. The main reason for this is doubtless the existence of the numerous small medical societies in the District, which offer

* This address in a somewhat modified form is published in the *Journal of the American Medical Association*, February 1. It is expected that in that form it will also be published by the A. M. A. as a pamphlet.

social features not realized by the general Society. The formation of sections in addition to these societies would mean a prohibitive multiplication of meetings to be attended and participated in. I am constrained to the belief that the activities of the small societies detract from the proceedings of this main Society; since, excellent as are the papers offered here, many of our ablest members give the best of their efforts to the smaller organizations and have little left for the general profession. Could the choicest material presented in the smaller societies be utilized in the proceedings of this general body, the quality of our transactions would easily attain a plane not surpassed by any similar organization. There has been some misunderstanding as to the operation of the sections as planned in our constitution; and I feel that a section organization is possible whereby the valuable material available in Washington would be at the disposal of this Society and made accessible and helpful to our entire membership. The exclusive features of small societies might not be feasible; but I believe that a social and fraternal spirit could be fostered in sections, and on a broad and democratic basis. However, the maintenance of sections cannot be accomplished by edict or paper organization, but can come only from a spontaneous personal demand and interest.

The recent issues of the WASHINGTON MEDICAL ANNALS have been distressingly emaciated, many of the papers presented to this Society being published elsewhere. Publication of such articles in first-class journals of wide circulation possesses, indeed, certain advantages: to the authors by gaining large audiences for meritorious contributions, and to the medical profession of the District of Columbia by displaying to the world the talent possessed by us. Yet the result is that our official organ is not an adequate representation of our activities. It is worth considering if a policy of cultivating and expanding our journal and its circulation would not redound to our credit and advantage. If its pages contained an abundance of good literary material,—not necessarily limited to papers read before this Society, but including also worthy contributions elsewhere originating—it might well become of sufficient value and attractiveness to gain, if properly exploited, a generous circulation in neighboring States. With an ample local or sectional circulation, our journal would be a more attractive vehicle for publication, and would operate toward the benefit of the Washington profession by calling attention to the abilities and facilities here available. Such a policy would necessitate some extra financial support at first, to cover increased amount of printing and distributing copies in the effort to gain subscriptions; and the editor should receive some honorarium, at least as a token that his painstaking services are appreciated by the Society. If successful, the journal should in time become more or less self-supporting. I am aware that ex-

pense is an insuperable objection with some; yet a liberal policy and united effort would be of ultimate advantage if it helped to make Washington a medical center rather than a medical suburb.

MEDICAL SECTARIANISM.

As the main theme of this address, I propose to attempt a consideration of the subject of medical sectarianism. The existence in the community of various schools and sects, flourishing and popular, each claiming to present a complete system of medical practice, is a vexatious condition constantly confronting the medical profession, and arising perennially to trouble this Society.

The regular profession feels that scientific medicine, being grounded on rational and comprehensive principles, while far from perfect, possesses an entirely different status from that of the sects, and has unimpeachable claims to acceptance. The viewpoint of the scientific physician makes him unable to perceive any rational basis for sectarian dogmas, and the credence and support which they receive arouse his indignant amazement and exasperation. It brings a shock to our self-esteem when we discover that the public does not accept us at our own valuation, but that in many quarters exist misunderstanding, distrust, and antagonism against the medical profession. The experience of this Society in connection with legislative propositions on medical matters has brought a keen and mortifying realization of the extent and fervor of the opposition to medicine.

When, however, we contemplate the zeal, enthusiasm, and faith of the devotees of the pseudo-medical sects; when we consider the large numbers of their adherents; when we appreciate that their following comes from the most reputable, most substantial, and most intelligent sections of the community—from the better rather than the lower classes of society—then we should begin to realize that these popular beliefs are not the product of perversity, or wickedness, or ignorance, but result from powerful causes deeply rooted in human nature. To ignore these causes, to deny whatever merit or justification the sects may possess, is to meet the situation ineffectively. In view of its manifest powerful hold on human nature we should look upon medical sectarianism as a psychologic phenomenon presenting a definite scientific problem, and study its causes, nature, and manifestations in precisely the same dispassionate way as we would investigate any other pathologic condition.

Psychology of medical beliefs.—A consideration of the psychologic processes involved in the formation of human beliefs, especially medical beliefs, is essential to an adequate understanding of medical sectarianism.

Theoretically the formulation of beliefs is a function of the intellectual side of the mind. With perfect operation of the

mental faculties truth would be elaborated with the unerring and unfeeling mechanical accuracy of an adding or calculating machine. That is the ideal method to be aimed at in the attainment of knowledge; beliefs so formed may be relied on as embodying truth.

Unfortunately, however, the emotional side of the mind is apt to interfere with the proper working of the intellect, and disturbing influences are brought into action which pervert the judgment and lead to error in the conclusions arrived at. There are a number of powerful natural propensities inherent in human nature which influence and dominate human activities, such as the love of life, the sexual instinct, the love of action, the love of knowledge, the love of pleasure, the love of beauty, etc. These propensities also influence belief, those most potent in affecting the medical beliefs of mankind being the love of life and the thirst for knowledge.

The love of life is one of the most fundamental and powerful instincts of man and animals. "Self preservation is the first law of nature"; as a race indifferent to existence might easily become extinct, the instinct for self preservation and the intense desire for life constitute a biologic character of the highest potency in the perpetuation and evolution of the race. This somatic instinct,—manifested as pathophobia, the fear of disease, the dread of pain, the horror of death,—is a primal element in human nature, constant and insistent in its action in normal individuals, and in its exaggeration one of the commonest manifestations of mental disorder. All our thoughts and actions are influenced by this instinct. Everything relating to disease and its treatment is of the utmost interest to people in general, and invested with mysterious fascination; and the disproportionate and excessive concern of man in his somatic well-being is apt to have a disturbing effect on the formation of his medical beliefs. In his terror at the dangers threatening life and health man will grasp at straws, and in his desperate eagerness for help and comfort may form too hasty judgments and put misplaced confidence in specious and fallacious ideas.

A similar influence is exerted by man's concern and anxiety for the well-being of his loved ones, by humanitarian impulsions, and by the sexual instinct.

An insatiable thirst for knowledge is another dominant trait in human nature. Just as a superabundance of physical energy or "animal spirits" leads to exuberant physical activity, so does man's superabundance of mental energy lead to exuberant intellectual activity. The human mind confidently aspires to mastery and comprehension of the entire universe, and is reluctant to admit that anything is beyond its powers. Human nature is not satisfied with merely miscellaneous information, but demands a complete scheme of universal knowledge. It is impatient with

gaps in knowledge, and insistent for completeness, certainty, and finality. Our patients, for instance, demand of us immediate and definite diagnoses and prognoses. This eagerness for knowledge and impatience with the unknown is a powerful incitement to premature generalization and ill-founded assumption, and is a potent cause of error and fallacy.

Taken in conjunction with the intense concern of man in his physical well-being, this demand for knowledge becomes preëminently potent in that particular field, and we have a concurrence of influences which by leading to premature and uncritical judgments has always been a source of incalculable error and fallacy in the medical beliefs of mankind. There is no branch of knowledge in which error is so widespread and deepseated, or looseness and superficiality of thought so prevalent, or theorizing, amateurism, faddism, and mysticism so general, as in the field of medicine. The generality of mankind are powerfully controlled by these influences in their medical and therapeutic ideas.

On the intellectual side of the mind we can differentiate two distinct methods by which beliefs are arrived at, which may be termed the speculative and the scientific methods.

The speculative method, by deduction, introspection, and hypothesis, erects elaborate structures of belief or philosophy upon slight foundations of fact. In this method the processes are esentially subjective, deductive, and *a priori;* the mind works from assumed cause to effect, from subjective thought into the objective world. Great thinkers in all ages have thus formulated complete schemes covering whole departments of knowledge or the entire universe; and have taken such pride in these brilliant creations of their own intellects, and regarded them as so complete and perfect, that observation of nature was regarded as superfluous and unnecessary.

The scientific method works in the opposite direction from the speculative. It is objective, empirical, inductive, *a posteriori* in character. It begins with a study of external phenomena, and from them as a basis works out general laws. Rigidly suppressing preconceived notions and bias, this method by painstaking observation and investigation collects an adequate mass of objective data as a prerequisite to generalization.

Of these two methods, the speculative is far more attractive to and has a much stronger hold on human nature than the scientific method; it is the primitive and natural method of the untrained mind; it the more easily satisfies the innate thirst for knowledge. Uncritical theorizers can easily bring themselves to believe what they wish to believe; scientists can believe only what the evidence permits or forces them to believe. The scientific method is tedious and laborious, and leaves many gaps in knowledge; it does not come naturally, but is a product of training, discipline, and culture.

The history of medicine is a convincing demonstration of the utter inability of speculative methods, and of the brilliant competency of scientific investigation, to produce effective knowledge. For thousands of years, during the ancient and middle ages, medicine was completely under the influence of speculative methods of thought; and the sterility, stagnation, and inefficiency of medicine during that long period is a convincing proof of the utter futility of those methods. On the contrary, within the brief span of the past hundred years, solely by the employment of the scientific method medicine has undergone a wonderful transformation and made stupendous advances.

While the medical profession has been emancipated from false methods of thought, the medical conceptions of the great mass of mankind are still dominated by the speculative spirit, futile as it is. It is this spirit that actuates medical sectarianism, and its attractiveness to human nature explains the strong hold which medical sects and systems have upon the public. The sole distinctive characteristic of regular medicine, which alone gives it an unimpeachable status above and entirely different from that of the medical sects, is its rigorous employment of the scientific method.

Psychotherapeutic results.—Abundant evidence indicates that in some measure the medical sectarians obtain successful therapeutic results. This we may as well admit, and without reluctance; we need have no fear of the truth. A multitude of witnesses whose intelligence and sincerity can not be impeached have given appreciative testimony of relief obtained from the application of the various medical systems, sometimes even after the failure of regular practice. If we thoughtlessly or incautiously deny the possibility of benefit being derivable from sectarian practice, we stultify ourselves and weaken our own credibility; since persons perfectly competent to judge of their own relief from symptoms will, if that relief is disputed, regard other opinions of the objector as equally untrustworthy.

Each sect attributes the cures wrought by it to the operation of its own particular principle. As each sect claims to be of exclusive and universal verity, if any one of them be true the theories of all the others are false. The presumption therefore is that they are all false, and that we must seek the cause of the cures effected by such a variety of methods not in the virtues of any one of them but in some other principle brought into action by all of them in common.

This therapeutic agency common to all curative systems is manifestly the healing power of the mind,—the *vis medicatrix mentis,*—psychotherapy. All forms of medical treatment of sentient patients necessarily bring this principle into operation; and in its action we have a simple and powerful agency which mainly, along with hygienic treatment, explains whatever thera-

peutic efficacy the medical sects and all other forms of irregular treatment possess.

Psychotherapy is of course likewise largely responsible for results achieved in regular medical practice; and the Christian Scientists and other sectarians at the present time are giving the medical profession a useful demonstration of its potency. Much that we have credited to the action of our drugs has in reality been due to psychotherapy. The rational physician should feel no hesitation or humiliation in recognizing the large part mental factors play in his work; he should feel called on to study exactly the applicability and methods of psychotherapy, and, instead of employing it blindly and unwittingly, utilize it knowingly, purposely, and systematically. Nor should we hesitate to acknowledge whatever debt we may owe to the sectarians for bringing to us a realization of the potency of psychotherapy; since what we seek is the truth, regardless of its source, even if in gaining it we have to acknowledge and reject previous error.

It is obvious that the accomplishment of cures in itself alone is no proof of the truth of any theory of healing. The most ignorant individuals and the most indifferent methods may be efficient vehicles of psychotherapy. The psychic efficiency of a system may indeed be quite proportionate to its falsity; since ignorance may engender an enthusiasm and fervor which the materialistic and skeptical physician is unable to evoke. Some persons are natural healers, endowed with innate ability to inspire fervid psychotherapeutic faith. Many such are in the ranks of the regular medical profession, and may have a vogue and popularity disproportionate to their scientific attainments. Others arise from the laity, achieve an enormous influence and following, found schools with multitudes of adherents, and in spite of the error and harm in their systems bring much relief and comfort to humanity.

If psychotherapy comprised the entire healing art, it would not much matter if the systems conveying it were based on erroneous theories; since, the main object being achieved, suffering individuals gaining relief would not be disposed to analyze or criticise the source of their relief. Psychotherapy is not, however, of universal applicability, but has its limitations. In the employment of this or any other single agency in that class of cases in which it is not applicable, to the neglect of the methods that would be effective, lie great possibilities of harm and the fatal objection to dogmatic medical systems. The conditions amenable to psychotherapy cause much mental and physical discomfort and unhappiness, but no mortality; while the conditions not adapted to mental treatment include the graver disorders that menace life, and which therefore call for the most expert treatment possible.

General characteristics of medical sects.—From a comprehen-

sive consideration of existing and extinct medical sects and systems we can form a general judgment of their common characteristics.

All of them alike are the products of theorizing and speculative methods of thought, and have therefore appealed strongly to human nature. Usually on a slight foundation of fact, sometimes of pure fancy, is erected an elaborate system covering the entire field of medicine. A principle more or less true in a limited field is taken to be of universal applicability, with disregard and rejection of other principles also included in the aggregate of truth. The attempt is made to reduce all medical principles and methods to one or a few general propositions, to force all facts into accordance with a narrow preconceived dogma. All the systems have accomplished some beneficial results, chiefly through psychotherapy, partly from hygienic treatment and the operation of the *vis medicatrix naturae,* a few to a certain extent directly from the virtue of their particular therapeutic technic. All of them have caused harm by neglect of really effective methods of treatment in those cases where their special methods were not applicable, and some by the positive viciousness of their methods.

The general tone of the sectarian literature and thought is one of shallowness and superficiality, generalities, and mysticism. The fervid and widespread acceptance of sectarian systems evidences an amazing lack of the critical faculty in medical matters among great numbers of people otherwise intelligent. No doctrines are too ridiculous, no practices too pernicious, not to be greedily accepted by the undiscriminating public. In scientific medicine it requires wealthy endowments and patient, laborious work of many trained investigators to delve out one by one little fragments of truth; and yet the laity without hesitation accept systems covering the entire field of medicine founded by the most ignorant, illiterate, and unqualified individuals.

Abundant experience has shown that such speculative methods as characterize medical sects are incapable of yielding effective knowledge. Medicine can not be reduced to a few general principles; there is no one method of treatment of universal applicability. Every disease is a problem by itself, which must be worked out in all its aspects independently of other diseases. There is no royal road to medical knowledge or practice. Of the great variety of therapeutic measures available, the most effective combination for each particular morbid condition must be determined by exhaustive scientific research and rigorously analyzed clinical experience. The exclusive application of any one method of treatment in all cases of disease indiscriminately causes vast harm through the nonuse of methods that might be effective. The deliberate and ignorant waste of opportunities for saving and relieving distressed humanity involved is just ground

for the utter condemnation of medical sectarianism, and must cause inexpressible grief and sorrow in the hearts of all humane persons.

Mercenary motives also play a large part in inducing practitioners to adopt sectarian affiliations. The popularity of sectarian designations in some communities is a commercial asset. The less prolonged and less exacting courses of education required in most sectarian schools also lead many would-be practitioners to take that easier and cheaper road to practice.

All the medical systems of the past have had but a transient existence. Widely accepted for a time, they have invariably declined and died out, to be replaced by others. There is no reason to expect that any existing or future sects will have any different life history. At the present time, in sects that have had a flourishing existence we can perceive evidences of decline and approaching dissolution; while new sects are springing into existence and developing with great vigor.

Being deeply rooted in human nature, the spirit of medical sectarianism and quackery is not a local phenomenon, nor (as often asserted) is it peculiar to the United States. Quackery is rampant in other countries,* such as England and Germany; and while sectarianism as such is less prevalent there, homeopathy and Christian Science are still represented. In France the practice laws are to a certain extent disregarded. In Germany over a third of the medical practice is in the hands of irregulars; and a cure-freedom spirit exists there like our own self-styled medical freedom league.

Existing medical sects.—Only a brief individual consideration of existing medical sects will be undertaken.

Physiomedicalism, a sect with a small following in a few States, is a survival of the Thomsonian and Botanic medical systems, which were founded by a New Hampshire farmer about a hundred years ago and for a few decades had considerable following. Physiomedicalism is moribund, its last college having become extinct in 1911.

The *Eclectic* medical system, which now has six colleges and some following in certain parts of the country, was originated about 1830, chiefly by a group of Thomsonian and Botanic practitioners, who set out to reform medical practice. The claim that the great revolution in regular medicine effected in the nineteenth century was due in any material degree to the efforts of the eclectics or other sects that arose about that time can not be substantiated, as the history of the great movements in medical science then taking place in Europe does not reveal any influence exerted by a few obscure American schismatics. Many of the principles professed by the eclectics are quite admirable; but they have nothing to offer in the way of resources, methods, or

* See Abraham Flexner's Report on Medical Education in Europe, 1912.

principles that regular medicine does not possess; and the continued existence of the eclectic sect seems simply the perpetuation of a name and organization after the reasons that may have originally called it into being have ceased to operate. Its schools are rapidly diminishing in number. Several of them have recently dropped their sectarian character and become regular; and many eclectic graduates have joined the regular ranks.

Homeopathy, first promulgated by Hahnemann in 1810, before the great renaissance of scientific medicine took place, is a survival of the medical thought of the middle ages. Some of the doctrines advanced by Hahnemann, such as his denial of the healing power of nature, his teaching that chronic diseases are due to the itch, his belief that shaking drugs increases their power to a dangerous extent, his method of administering infinitesimal doses by smelling sugar pellets, were too fantastic even for his followers to accept. Two cardinal doctrines, however, continued to form the distinctive features of the homeopathic system, the use of similars and the infinitesimal potentized dosage. A careful examination of the original literature constrains me to the judgment that the evidence on which the doctrine of similars was based is utterly unconvincing. The infinitesimal dosage, the centesimal dilutions, the idea that diluting and shaking medicines develop a mysterious potency, is stupendous nonsense. A simple calculation shows, for instance, that a single drop of medicine stirred up in the Atlantic Ocean would yield a strength about equal to only the twelfth centesimal dilution; and yet the standard homeopathic dose was the thirtieth dilution, while dilutions running into the hundredths, thousandths, and even millionths have been largely used. Of all the medical systems of present or past times, there is none which in my opinion has a scantier basis of fact or reason, a poorer excuse for existence, or a more fantastic set of principles and methods, than homeopathy. However, except among a minute remnant, homeopathy as a system of practice at the present time is practically extinct. For the sake of consistency homeopathists still profess nominal adherence to homeopathic doctrine; or reduce the extravagant centesimal dilutions to the three lowest decimal dilutions, which, forming strengths of from 1 to 10 to 1 to 1000, bring many drugs within the range of effective dosage. When, however, they desire real physiologic results they employ regular practice; for psychotherapeutic purposes homeopathic methods will answer as well as any. Though the practice is abandoned, the name and organization have continued, through force of habit or for pecuniary advantage. As individuals the practitioners of homeopathy in general are excellent and likable men; but the general attitude of the school, in professing to follow one system while really practicing another, smacks of insincerity.

Osteopathy, founded by Still in the seventies of the last cen-

tury, is at present the growing and flourishing sect. It makes a universal application of a single assumed etiologic factor (obstruction of nervous and vascular channels by bony and other displacements) and a single therapeutic method (manipulation). It is of real merit in offering a method,—massage,—which is, perhaps, too much neglected by, and is not adequately available from, the regular profession. It doubtless effects much good directly from the application of this technic; and much through psychotherapy; but it also causes harm through the non-use of effective measures in cases where these two therapeutic agencies have no utility.

Chiropractic, recently introduced by Palmer, who disclaims having studied medicine, is in the incipient stage, but shows evidence of carrying a strong appeal to the uncritical. It is similar to osteopathy, its theory being that all diseases are caused by pressure of the vertebrae on the spinal nerves.

Christian Science is at present a conspicuous object of the wrath of the medical profession; and yet to my mind it presents features that are interesting and instructive. The basic doctrine of Christian Science, the negation of matter, has a strong metaphysical foundation. Reduced to the last analysis the only entities in the universe whose existence is absolutely certain and unquestionable are mental ideas; how to prove that objects in the external material universe actually do exist as in the mind they seem to exist is a proposition that the keenest philosophers have attempted to solve in vain. However, the universal feeling of mankind is that, and all men invariably act as if, matter exists substantially as it seems to exist; and for all practical purposes the existence of matter must be postulated as the basis of all action and all thought. The cult of Christian Science is an interesting attempt to conduct life according to the idealistic philosophy. Whatever its inconsistencies and errors, in many respects the Christian Science philosophy of life is a helpful one. It is a philosophy of optimism,—a philosophy that seeks to minimize or ignore the discomforts, the troubles, and the evils that beset us. It is not strange that such a cult should have attained a great vogue.

In its medical application Christian Science and its allied cults afford a pure example of the operation of psychotherapy. To a certain extent its basic dogma is true; a multitude of morbid conditions are due to mental error, or, as we express it, are psychogenetic. Just this large class of cases is specifically adapted and amenable to psychic treatment, and Christian Science oftentimes affords that treatment in an effective form. But there are limitations to the proper application of the Christian-Science method; and the sad havoc wrought by its attempt to treat all kinds of morbid conditions indiscriminately, to the neglect of

the appropriate measures, brings upon the cult merited reprobation and condemnation.

Regular medicine.—The general public to a large degree regards regular medicine merely as one of several schools competing for business, and puts it on exactly the same plane as its rivals, not conceding to it any title to special consideration or recognition.

To the many who look upon the practice of medicine solely as a means of making money, one method of extracting dollars from the public must seem as legitimate as any other. It is often charged that the opposition of the medical profession to sectarianism arises from mercenary motives,—resentment at loss of patronage and effort to monopolize business. It is doubtful, however, if the profession feels financial deprivation from sectarian practice to anywhere near the extent imagined by our opponents. Much of the practice that goes to the sectarians is of a psychic character irksome and uninteresting to the average practitioner and which he is glad to be rid of. There are, indeed, business considerations in the practice of medicine that are perfectly legitimate and proper; and there are individual practitioners who are excessively actuated by sordid motives. Yet to the true physician there is much more in the practice of medicine than the mere making of money; and the general spirit of the medical profession and its attitude toward sectarianism are determined far more by intellectual and humanitarian considerations than by mercenary influences. Certainly men who regularly render a large part of their services gratuitously and are constantly striving to eradicate their own means of livelihood can not be convicted of being altogether mercenary.

Another ground for misunderstanding arises from the use of the term medicine in different senses. Many understand the practice of medicine to mean the use of drugs or medicines solely, to the exclusion of other measures of treatment; such take the expression medical treatment to be synonymous with medicinal treatment. Certain sects style themselves non-medical or anti-medical, meaning non- or anti-medicinal. We use the term medicine in a much larger sense, under the common figure of speech whereby the name of a part is used to designate the whole. To us the practice of medicine means the practice of the healing art, by any and every method or combination of methods, medicinal, hygienic, physiologic, biologic, physical, mechanical, surgical, psychic, prophylactic, most effective for each particular condition. There has been much irrational and wholesale condemnation of drug therapy. While the use of drugs to a considerable extent may be of indifferent utility, yet the efficiency of much drug treatment is beyond contradiction. Scientific medicine is by no means, however, limited to the use of drugs, but employs any and every agency that may be of use.

The whole field of therapeutic technic is open to us; any physician is free to follow any method of practice that he may wish. No sect has the exclusive monopoly of any diagnostic or therapeutic technic; no sect has any resource or agency that is not equally at the command of the regular profession. If we employ those methods with skill and judgment, the sects are left without any reason for existence. Under these circumstances, our opponents endeavor to restrict the definition of the practice of medicine to the use of drugs, and thereby they gain an excuse for existence; they thus emasculate and render ineffective our medical-practice laws. Legislative or judicial definitions, however, can not deprive us of any of our resources or limit the universality of our therapeutic methods.

The one and only factor which gives medicine a standing entirely apart from all medical sects is its scientific character. Of the great body of science at the present time medicine is an integral component, and has precisely the same standing as any other department of science, such as chemistry, geology, astronomy. In the national scientific associations and learned bodies medicine has the same affiliations as other sciences. The medical sects have no scientific character or standing, no connections with scientific bodies.

There are no sects in science, no schools of truth. While facts of nature are being studied out and until final certainty is attained, there may be legitimate and amicable differences of opinion in the scientific fold; but in ultimate truth there is an essential unity and no contradictions are possible. The existence of conflicting sects and schools, for instance, of chemistry, or astronomy, or any objective science, is unthinkable; and it is equally incongruous in medicine. The unenlightened public is unable to appreciate the solidarity of truth or to perceive the incongruity of conflicting divisions in medicine or other sciences.

Not being founded on any general theory, scientific medicine objects to being designated by any appellation implying adherence to any dogma. The most objectionable of such designations is the term *Allopathy,* invented by Hahnemann. It is unjust to attempt to force on us a name to which we object, which does not correctly apply to us, and which simply marks our divergence from a false and decadent system. Every self-respecting physician must resent and repudiate the title. The term "regular" is also awkward and unsatisfactory; it is used only to avoid misunderstanding, and must not be taken to imply recognition of the propriety of any distinctions in the medical body. Even the qualifying designation "scientific" should be superfluous; as it is inconceivable that any competent physician or any effective medical practice could be anything but scientific. The simple term "physician" should be sufficient to comprehend all rational and intelligent practice of the healing art.

It may be frankly admitted that there are many shortcomings and imperfections in regular medicine. The ranks of the profession contain incompetent and unworthy individuals, individuals who at heart are quacks, sectarians, and fakirs. Low standards of medical education in the past have enabled many inadequately trained persons to obtain the legal right to practice medicine. The most competent practitioners make mistakes. There are limitations to our therapeutic resources, and many conditions in which we are unable to render help; in which, of course, our efficiency is no greater than that of the sectarians. All such objections amount to this, that, like other men, we are not perfect and infallible and our science has not yet attained its complete development. With correct methods and proper motives, scientific medicine only is in a position to attain the maximum possible of truth and efficiency and the minimum of error and harmfulness.

In its attitude toward sectarianism the medical profession is charged with narrowness and intolerance, and with the intent to abridge the medical liberties of the people. The assurance of medicine rests on the feeling that its scientific foundation is unimpeachable. The scientific method imposes exacting criteria for the acceptance of doctrine; but truths once so established rest on a sure and abiding basis, and we can feel absolute confidence in the validity and permanency of such of our medical theory and practice as has a thorough scientific foundation. The bacterial causation of infectious diseases, for instance, is now just as firmly established as the law of gravitation or the atomic theory, and it would be a waste of time to give any consideration to eccentric individuals who may question it. The medical profession has well-grounded confidence in its methods, is constantly striving for more truth and greater efficiency, and has an abhorrence of error and inefficiency. If this attitude be narrow and tyrannical, so must it be.

Remedies.—Having discussed the etiology and pathology of medical sectarianism, it remains to consider its therapeusis. What action is to be taken in the matter?

Education: If the general public could be imbued with a critical scientific spirit, scientific medicine would get just recognition. Education of the public and general cultivation of that spirit would eradicate medical sectarianism. The prospect of effecting this is very remote. Since the beginning of history there has been little advance in the character of popular medical thought. The belief in charms and superstitions has lessened, and the belief in witchcraft died out,—though even that has been revived by the Christian Scientists. But the improvement has been slight and slow, and the credulity and gullibility of the people in medical matters is much the same now as it has always been. The radical transformation of the popular mind requisite

to the attainment of a truly logical and critical attitude seems hopeless; though the spirit of the renaissance may yet become general.

Argumentation: Argumentative attempts to refute the claims and criticisms of our opponents are usually futile. At committee hearings on legislative propositions in which our Society participates little impression is made. Oftentimes each side misses the exact viewpoint of the other, and the discussion is at cross-purposes. Most faddists are not amenable to reason, as is illustrated in the current controversies on vaccination and vivisection. It is impossible to reason with irrational persons, with persons inflamed by hysteria and totally regardless of evidence and logical principles. Such persons have cunning tricks for confounding straightforward opposition; they may make an impression by unbridled exaggeration or dogmatic reiteration of unproved assertions; but they lack the logical faculty and are incapable of reason. Under such circumstances argument and explanation are a waste of time, energy, and dignity.

Suppression: In view of the possibilities of harm there are many who would favor the prohibition of sectarian practice. The difficulty with this rests in the curtailment of individual liberty; even the fool, within limits, has a right to his folly. Coercion is not a worthy or successful way to establish one's ideas. Only through overwhelming public sentiment, which does not now exist, would prohibitive measures be permissible or successful.

State licensing of physicians to practice after some test of their qualifications has proven a failure in checking irregular practice. Motives not altogether disinterested have probably to some extent promoted the enactment of such legislation, such as the desire of sects to obtain the prestige of legal recognition, the limitation of competition, and the craze for legislation now prevalent. Under the medical-practice laws worthy practitioners are put to much trouble on removing into a new jurisdiction; but fakirs, quacks, and irregulars thrive unchecked and new medical cults arise and flourish without the slighest hindrance. It is easy enough to license physicians; but in the present state of public opinion it is impossible to suppress practice by unlicensed individuals. Our opponents are sufficiently shrewd and influential to see to it that the legislative definitions of the practice of medicine are too elastic to hold in court. The only great benefit that has been obtained from our practice acts has been that, indirectly, they have been influential in raising the standards of medical education.

The status of scientific medicine is lowered, and that of the medical sects raised, by their association under the law on a common plane. The profession cannot with dignity and honor willingly assent to such an association, but may submit to it only

under protest. Any compromise with or partial recognition of established forms of error impairs our position and weakens or nullifies the force of our objections to other forms of irregular practice.

Even a proportionate numerical representation on the licensing boards is denied us; the sects combined can control the boards, though all their practitioners together number far less than ours. The one solitary eclectic practitioner in the District of Columbia has an equal representation on our Board with our six or seven hundred regular physicians.

If we must have practice laws, we can consistently assent only to such as ignore or do not specifically recognize any divisions in the medical body.

Absorption: Whenever reasonably well educated and qualified sectarian practitioners desire to unite with the regular profession I believe that the sentiment of the profession would be, or should be, to welcome them to full association, regardless of previous affiliations: provided that distinctive sectarian designations and connections be discarded.

Self-culture: It must be admitted that under present conditions the prospect of any material elimination of medical sectarianism is very remote. But if an obdurate and perverse world will permit little to be effected through general education and legislation, there is one field for improvement freely open to our efforts—ourselves. When viewing the mote in others' eyes it is always well to look to the possibility of a beam in our own; and it is worth considering if in our efforts to improve the world it is not best to begin with ourselves.

The extent of popular adherence to medical sectarianism might be taken as an indication that the medical profession has to just that extent failed in satisfying the wants of ailing humanity. Possibly the existence of the sects is partly due to our own deficiencies. If we would do away with medical sects we must be prepared to give what the people now get from those cults. If we would abolish osteopathy, for instance, we must provide the therapeutic technic which that system offers. If we would supersede the Christian Scientists we must practice psychotherapy as efficiently as they. The ancient association of medicine with the priesthood had a profound significance; and medicine must still cultivate the priestly element, the element that reaches the heart of humanity, if it would attain its fullest influence and usefulness. Persuasion, not coercion, is the true way to gain the approval of the public; it will be on our own merits that we are sure ultimately to be judged, and who can say that the final verdict of the people will not be just?

The general interests and resources of the profession are more complete on the physical and material side than on the psychic side, and to a large extent we are deficient in the application of

psychotherapy. We lack sympathy with and interest in our numerous patients with psychogenetic disorders; we are impatient with their multitudinous complaints, we have no effective treatment to offer them, we are glad to get rid of them. We can not blame them if they turn to sectarian practice. These sufferers are just as miserable as if they had organic disease, and if relief is possible they are equally entitled to it. If they get benefit from the sectarians after looking to us in vain, we have failed in what should be an appropriate field for our activities. If we cultivated that field properly, if we utilized psychotherapy rationally and adequately, or if we developed experts and specialists to attend to that class of practice, we would, by retaining its clientèle, go far toward abolishing medical sectarianism.

The first duty of the physician is the care of his patients, and to qualify himself for that care by keeping up with the advances of medical science. Other activities, such as philanthropic efforts, social reform, even some hygienic propaganda, are secondary, and should not be suffered to interfere with the primary functions of the profession. Nor should we narcotize ourselves into stagnation by the pharisaical attitude which in our self-complacency we are prone to assume, that ours is the noblest and most beneficent of all callings, and ourselves the holiest and best of men. Humanitarianism is a noble sentiment, but to be effective it must be grounded on intelligence and knowledge; too much of the philanthropy of today, being animated by sentimentality, vanity, or well-intentioned ignorance, is barren of result.

Hippocrates said: "He who loves his art loves man." We can best serve mankind by cultivating ourselves and perfecting our science. From every point of view our efficiency and success can come only from knowledge and wisdom; and the key to the whole is the scientific method. This does not mean that we are all called on to engage in scientific research; although those who have the opportunity can do no greater service to medicine and humanity than, through intelligent investigation and observation, by contributing new data and ideas. To very few is it given to make epochal discoveries; the daily work of the great mass of us consists in carrying out the ideas of a few great minds. All of us, however, will attain the greatest efficiency by preserving the scientific attitude, and carrying out every detail of professional work on scientific principles. A receptive attitude, though tempered with healthy skepticism, should be maintained toward all advances in medical science. Some there are who, from intellectual inertia or mental sclerosis, manifest a certain hostility to innovations. This is not the spirit of progress; the therapeutic or diagnostic novelty of one year becomes the commonplace routine of the next.

If, then, we cherish the scientific spirit, if we labor to develop ourselves and advance our art, if we endeavor to meet in full

measure the psychic as well as the physical needs of mankind, we will find ample field for our activities and will be following the only sure road to efficiency. On this alone depends our professional supremacy, and in this way can we best merit the approval of the public and regain that support which is now given to the sectarians. Confident of the validity of our principles and the sincerity of our motives, we can thus, oblivious to the distrust of the uncritical, the clamor of the hysterical, and the malice of our detractors, with patience and serenity labor for the advancement and the glory of our profession.

REPORT OF THREE CASES OF XERODERMA PIGMENTOSUM, THE LAST ONE IN THE SERVICE OF DR. FOX, OF THE EPISCOPAL HOSPITAL.*

By C. A. Simpson, M. D.,

Washington, D. C.

A. C., 13 years old, Almondale, Maryland. Family history: Father and mother living and in good health; sixteen children; six brothers living, four dead, one of them dying of this condition; five sisters, all living but one; cause of death unknown. All brothers and sisters now living are in good health.

Previous history: The disease began when the child was four months old, as freckles and pigmented spots on the face, hands, neck and lower arms. These soon developed also on the feet and lower legs. The condition has progressed for twelve years, improving during the winter months, only to relapse the following summer.

General condition: The child has visibly failed since I saw her last, fifteen months ago. She is rather undersized, quite thin and anemic looking, has good appetite, good digestion, mentality good, and no nervous symptoms. This has been her past history, according to her mother and sister. She is suffering from conjunctivitis and other eye troubles as a result of the disease.

At present her skin lesions are of a multiform and interesting character, consisting of light and dark-brown freckles, ranging in size from a pin head to a finger nail, covering the hands, wrists and greater part of arms, but fading and disappearing below the axilla. Her neck, face and ears show similar lentigoes. Her feet and lower legs are affected in the same way, but in all locations the pigmentations become paler and smaller as the trunk is approached, finally disappearing and fading into the dry xerodermatous skin of the upper legs, arms and body.

* Reported to the Medical Society, October 30, 1912.

Between the pigmented spots can be seen white, pale, shiny, atrophic areas of irregular shape, ranging in size from a pea, in some locations, to a quarter in others. In some regions, as the

left side of the face, these atrophic areas have apparently coalesced into a spot as large as a dollar. Scattered irregularly among the cicatricial-looking areas, on close examination, can be seen telangiectases, consisting of red, pin-point or larger vascular branches, in some locations plentiful enough to give the atrophic spots a pinkish tinge.

Over the entire body the skin is of a dry, scaly, parchment consistency, but much more marked on the exposed surfaces, where, in addition to the general hyperkeratosis, can be seen circumscribed thickened spots and horny formations. When I saw her last, fifteen months ago, she had several of these horny warts on her hands and face, which have since been pulled off. On both hands, near the base of the third finger, can be seen the remains of these, one of which, she tells me, grew to be half an inch long. I have noticed this in my two other cases. These horns form again and again before finally showing epitheliomatous degeneration.

The case now presents a variety of skin lesions, namely, dark brownish pigmentations, atrophic plaques, telangiectases and circumscribed thickened horny formations, localized and accentuated hyperkeratotic growths, a part of the dry, harsh xerodermatous skin which is universal.

It is rather remarkable to have three cases of this rare condition in one's practice in three years, as Stelwagon and most of the American authors on skin claim to have the reports of less than one hundred cases. Two years ago I exhibited two other cases before the George Washington Medical Society of this city, one case being referred to me by Dr. Moulden the other by Dr. Spencer, both of Washington.

The case of Dr. Moulden's was exhibited before one of the meetings of the American Dermatological Society held in this city some years ago. She was a poorly nourished child of ten years, in the advanced stages of the disease, the exposed surfaces covered with pigmented spots, atrophic plaques, horns and multiple epitheliomas. She has since died from the condition. There were several other childen in the same family, but all were in good health.

The case of Dr. Spencer's was a little boy of five years in apparently good health, well nourished, with no digestive or nervous symptoms. The exposed surfaces were covered with large brown freckles which paled and almost disappeared on the covered parts of the body. The entire surface of the body was unusually dry and harsh, but the hands and face were even more so. On this dry surface the skin was thickened, cracked and scaly, and in some locations it went on to the formation of dry, horny growths. Under the left eye was a very prominent one (plate 2) as large as the little finger and half an inch long, tapering to a point. It was of a dirty brownish color with a rounded base, which was

apparently set into the skin and loosely attached, making removal very easy. Several of these had formed before and had been spontaneously shed. The case had been progressing for three years, improving during the fall and winter months, although never entirely disappearing. The spring and summer months always brought more pigmentations, scales and horns. All light treatment seemed to be contraindicated and applications such as lotions and salves proved useless; so the case passed from my hands.

The crossmarks on Plate I shows the remains of horns, pulled off by the patient before consulting me. She had several fifteen months ago.

Dr. Hazen had had under his care in Baltimore a case of xeroderma pigmentosum in a boy of 14 years, the disease being of two years' duration; at that time there was already a large epithelioma on the face. The disease was distributed over the whole body, the lesions usually being seen only on exposed surfaces. Some German observers think that the disease is due to the exposure of susceptible persons to the action of blue light; this would appear to be a contraindication to the therapeutic employment of x-rays in the condition, as some have attempted.

Dr. Abbe spoke of a case of xeroderma pigmentosum in a boy who had gone through the hands of many physicians, and had come to him for x-ray treatment; under this therapy the horny excrescences and freckles disappeared very nicely. He had required that the boy live in a dark room and that he appear on the street only at night and on cloudy days. The horny excrescences and freckles disappeared also after an attack of measles.

Dr. C. W. Brown had been present at the birth of the boy spoken of by Dr. Abbe. The disease appeared when the child was six years old; Dr. Brown had employed many therapeutic agents in seeking a remedy; under the application of concentrated sunlight some of the horny excrescences dropped off, but soon afterwards the boy went out of his care.

Dr. Simpson had seen pictures of Dr. Hazen's case, which was remarkable in that the lesions appeared on the protected parts of the body, and also it was unusual in the late appearance of the disease. His own case he had brought to the Society in the hope that someone would offer helpful advice; he knew of nothing of advantage to do for her. It seemed to him probable that as Dr. Abbe's case had received treatment during the winter months and was during treatment kept in a dark room, these facts were responsible for the improvement; the use of x-rays for the condition did not seem to be reasonable. The disease is due to a congenital intolerance of the skin for sunlight; the only treatment that had occurred to him was to cover the surfaces with some dark brown pigment that would serve to exclude ultraviolet light.

PLANT TUMORS AND THEIR RELATION TO THE CANCER PROBLEM.—ABSTRACT.*

By Dr. Erwin F. Smith,

Pathologist, U. S. Department of Agriculture.

Dr. Smith's introductory remarks included the statements that he had nothing new to offer, but that he believed it might be new to many of those present, because of the length of time necessary for the details of discoveries to become generally known, and because the medical practitioner is a busy man. Dr. Smith also stated that his first work on crown gall was done twenty years ago with negative results. He began again nine years ago with Dr. Townsend, of the same department, who dropped out of this line of work several years since. Some of Dr. Smith's discoveries are six years old, but the most important ones date from early in 1911, that is, those which led him to think that he had found a cancer in plants.

The first part of the address consisted of a few general remarks respecting the nature of cancer in animals and man, viz: "Now that the cause of syphilis is known, cancer remains the one world-wide terrible disease of mankind to defy solution, and, if we may believe statisticians, it is certainly on the increase in all civilized countries. The morphologists who have studied it have been led to believe that it is not a parasitic disease. In this I believe they are wrong. My sympathies have been always rather with surgeons and clinicians who, as a class, have maintained that cancer behaves like a parasitic disease, and since my own findings among plants I am more than ever convinced that the bacteriologist and not the morphologist holds the key to the situation. The morphologist has built up high barriers separating one sort of tumor from another, but nature, like love, laughs at locksmiths. What the morphologist does with the inconvenient transition forms which do not fit into his system I do not know. In the past there have been botanists who threw such disturbing forms into the waste basket. The morphologists have squabbled over cancer for two generations but have thrown no light on its origin. Our work, on the contrary, throws, I believe, a flood of light upon it, showing clearly the way that will lead to its solution."

This was followed by a few statements concerning benign and malignant tumors, in which types of malignant tumors were discussed, *e. g.*, epithelioma, carcinoma, sarcoma. "For the purposes of this lecture I shall use the term cancer in a loose, general sense to include all malignant forms. In other words, I shall speak from the standpoint of the physiologist and bacteriologist rather than that of the pure morphologist."

* Read before the Medical Society November 27, 1912.

"The mere fact that a primary cancer has developed on some part of the body does not constitute the chief danger, since one might have such a tumor for a long time without death supervening, unless the primary growth happened to be situated in or near a vital organ. What constitutes the peculiar malignancy of cancer is the tendency to form secondary growths in various parts of the body, including the vital organs."

Concerning the distinction between cancer and granuloma Dr. Smith said: "As example of a granuloma we may take tuberculosis. We have in this disease a focus of infection and source of irritation in the presence of a microorganism, against which the body reacts with the formation in the immediately surrounding tissues of cell growths not unlike those which occur in the bottom and sides of wounds, namely, granulation tissue; hence the name granuloma. In this manner nodular growths arise, but these nodular growths are limited in extent of tissue involved, are produced from the tissues immediately surrounding the bacterial nest, are not vascularized and soon become disorganized in their interior. The disease is carried from place to place within the body by the migration of the microorganisms, and wherever they lodge they set up or may set up similar irritations, with the production of similar nodules of granular tissue.

"The point which I wish especially to emphasize is the fact that in these secondary infections the granular tissue which develops is formed out of the particular organ in which the parasites happen to lodge, and does not consist of cells brought to it from a distance. In this respect cancers are quite different. We have in cancer an enormous multiplication of certain tissues of the animal, which, by continued growth, crush and disorganize the surrounding tissues, these growths being more or less highly vascularized; new vessels forming as the tumor develops, but not to an extent sufficient to carry on the growth beyond a certain point. There is usually a great excess of parenchyma cells in such a tumor and the blood vessels are not sufficiently numerous to nourish it properly, so that after a longer or shorter period portions of it disorganize often into open wounds, which are then readily infected by all sorts of secondary organisms, with all the well-known disastrous results. This is one striking difference between granulomata and cancers.

"The true nature of the cancerous development, however, becomes more evident in the secondary tumors. As has been stated, in case of granulomata it is the parasite which migrates. In case of cancers it is the cancer cell itself which migrates, *i. e.*, some of the body cells which, under some unknown stimulation, have been taken out of the physiological control of the body and have become thus, as it were, parasites on their fellow cells. There are two ways in which secondary tumors are derived from the primary tumor in cancer: (1) The primary tumor growing

peripherally sends out roots or strands which bore their way through normal tissues of the body, sometimes for long distances, developing from certain portions of these strands secondary tumors; (2) Small groups of cancer cells are dislodged from the parent tumor and carried as floating islands in the blood stream or lymphatics to develop secondary tumors where they lodge. The first of these ways has been definitely established by observation, the second by inference. These secondary tumors tend to partake of the nature of the tissue from which the primary tumor has developed. For example, if the primary tumor be a glandular carcinoma the secondary tumors are likely to contain glandular cells resembling those of the organ where the initial tumor developed. This is such a striking peculiarity that it is often possible for the animal pathologist to tell from the study of his sections whether the cancer is primary or secondary, and, if secondary, in what organ the primary tumor is located.

"Crown gall is not a granuloma. (Slides exhibited showing tuberculosis of beet which is a granuloma.) This tuberculosis of the beet, was at first supposed to be crown gall, but it is only superficially like the latter, because, as in the olive tubercle, the bacteria are abundant and easily detected and produce areas of softening and central cavities. Great numbers of the bacteria may be observed under the microscope in the disorganized areas, even without staining. Often the surface of such nodules bears small central radiating fissures. The diseased parts are mucilaginous—stringy when touched. Essentially the same phenomena occur in tuberculosis of the olive, which I have also studied and reproduced by pure culture inoculations. No such phenomena occur in crown gall. No cavities are produced, the bacteria are comparatively few in number, and do not occur in the vessels or in the intercellular spaces. They are *inside* the cells, but are not easily seen. We worked for more than five years before we were able to demonstrate them inside the cells, where we knew they must be, because high powers of the microscope showed that in rapidly proliferating tissues exactly like those known by the poured plate method to contain the organism there were no granules (bacterial or other) either in the intercellular spaces or in the vessels; and moreover, for such a proliferation phenomenon as that I have described, extending as it does in a narrow cord of cells long distances from the primary tumor, it appears to be absolutely essential to the understanding of the mechanism of the controlling cell divisions that the stimulus should come from within the cell, and that it does come from within admits of no doubt. First, as I have said, because there are no bacteria in the vessels or spaces between the cells; second, because we have occasionally seen rod-shaped, jointed, bacteria-like bodies moving slowly about within the living cells; third, because in a few instances we have been able to see them sharply delimited in stained

preparations, and have not been able to find similar bodies in rapidly growing healthy tissues treated in the same way; and fourth, because the bacteria occur in the tumor strand and in the secondary tumor (evidence of colonies on poured plates and successful inoculations with sub-cultures therefrom).

"A study of the growth of the crown-gall shows that certain cells which have received the initial stimulus (infected needle pricks, in our experiments) divide repeatedly and often very rapidly, giving rise to a mass of soft tissue which is not inclosed in a capsule but grows peripherally, infected mother cells giving rise to daughter cells, and so on, indefinitely. These cells also stimulate other uninfected cells into rapid growth. Probably only a small portion of the entire tumor consists of infected cells. Apparently any meristematic cell may originate such tumors, but if they are not provided with a stroma they remain small and soon perish. In the crown-gall there is not only enormous proliferation of the parenchymatic tissues (often in nestlike masses), but there occur in the tumor also all the other tissues normal to the organs attacked, although usually the woody tissues—the conductive ones—are greatly distorted and reduced very much in volume. They are there, however, permeating the tumor in various directions. Some portions of them are seen on sections as small ligneous islands, and others as more or less lignified short tubes; but these fragmentary appearances are due simply to the direction of the knife cut, and careful dissection of the part shows that the ligneous conductive tissues arise from the base of the tumor and twist and branch in various directions through it, becoming reduced to widely separated single vessels or pairs or small groups of vessels in the remoter portions.

"There is a definite tumor strand, out of the substance of which secondary tumors develop, which have the structure of the parent tumor, *e. g.*; in secondary tumors occurring in the leaves of the daisy as the result of stem inoculations with *Bacterium tumefaciens* there can be made out very clearly the development of a stem consisting of a loose rapidly-growing parenchyma in the center surrounded by scanty wood wedges, separated by enlarged, soft, non-lignified medullary rays, beyond which is a cambium zone and a bark. (Slides exhibited showing various stages of conversion of leaf into stem, and for comparison, slides showing the anatomy of the normal leaf trace. Cross and longitudinal sections were shown of tumor strands with young tumors arising on some of them.) Sometimes these secondary tumors develop a very perfect stem structure; often, however, the stem is more or less imperfect with the inclusion of large parenchyma cells of the leaf, and with a great overproduction of stem parenchyma (medullary rays, etc.), as compared with the vascular portion, so that decay sets in early. As this secondary tumor grows, the surrounding leaf-structure is destroyed, and eventually we may

have a growth which bears no resemblance whatever to a leaf. Often, however, fragments of the leaf adhere to the surface of the tumor, and show an unchanged leaf structure. These secondary leaf-tumors then, so far at least as regards the parenchymatous portion, are composed in great part at least of descendants of the originally infected stem-cells. The nucleus of the growth is an invasion of infected cells.

"We might now inquire whether primary tumors produced on leaves do not have the same structure as those just described as secondary tumors. We have made needle-puncture inoculations on leaves of the Paris daisy and have studied the structure of the tumors which develop, and these do not have a stem structure but an irregular epithelioma-like structure, derived wholly from the leaf, as may be seen from the lantern slides exhibited.

"Crown-gall is like cancer in another respect, namely, that the tissues, not being sufficiently vascularized but composed of a great excess of soft and fleshy cells, are easily disorganized, with the production of open wounds. In case of crown-galls on the daisy and many other fleshy plants, after about two or three months, large portions of the tumorous tissue decay, with the formation of open wounds, subject to a variety of secondary infections. There are, as I have already stated, no abscess cavities in crown-gall such as we find often in granulomata.

"Another resemblance of crown-gall to cancer lies in the marked tendency of the galls to return after excision. Just as in cancer, if all the tumor tissue is extirpated there is complete recovery, but if the excision is not made well beyond all of the infected tissues the disease returns.

"In some particulars crown-gall resembles epitheliomatous or carcinomatous growths, while in the embryonal character of its luxuriant granulations and in its predilection for young plants and rapidly-growing tissues it is more like sarcoma. The growth is a hyperplasia rather than a hypertrophy."

Several lantern slides and numerous alcoholic specimens were exhibited to show the general appearance of the disease as it occurs naturally and as the result of inoculations.

"We prosecuted our studies upon the crown-gall for two years before we were able to isolate the parasitic organism, cultures being made every few weeks from crown-gall tissue during that time. Various bacteria were obtained on these plates, pricked off for subculture, studied microscopically and culturally, and inoculated into the plant with negative results, these organisms being the saprophytes which usually accompany crown-gall. The plates were usually discarded after two to four days, and so the work went on. Two obstacles were in the way, of which we were then unaware, viz: (1) The organism in a viable form occurs in the tumor tissue of the daisy in small numbers only, and (2) the living bacteria in the tumor tissue occur, for the most

part, in a paralyzed condition, as involution forms (club-shaped, y-shaped and variously branched bodies) which do not grow readily when plates are made. It was only when we learned to inoculate our bouillons and agar plates with large quantities of the tumor material, waiting until the fourth, fifth, sixth, eighth or tenth day for the colonies to appear, that we obtained a sprinkling of colonies of the right organism. Hundreds of inoculations and cross-inoculations with *Bacterium tumefaciens*, isolated from the daisy and other plants, have proven beyond any doubt the bacterial nature of this disease."

Slides were shown of longitudinal and cross sections of very young secondary tumors in the leaf, and of other tumor tissues, illustrating the enormous multiplication of small cells (hyperplasia), absence of capsule, displacement of normal tissues, etc. Several slides were shown of the organism stained in the tissues by means of gold-chloride impregnations. Finally, slides showing infected and free cells side by side, and an agar poured-plate of *Bacterium tumefaciens*.

"In conclusion I might summarize the resemblances of crown gall to malignant animal tumors, classifying them morphologically and physiologically;

"(1) The morphological likeness consists in: (*a*) A peripheral growth of tumor cells out of pre-existing tumor cells, with absence of any capsule or well-defined limit to growth. The growth is injurious and extraphysiological, and, exactly as in human cancer, the cell itself is the only visible parasite. (*b*) The existence of a well developed supporting stroma. (*c*) The formation of tumor strands which extend from the primary tumor in various directions. (*d*) The development on these tumor strands, of secondary tumors which have the structure of the primary tumor even when they are located in other organs. (*e*) The existence of giant cells, *i. e.*, cells which contain several nuclei, and of rapidly proliferating anaplastic cells. (*f*) The occurrence of many amitotic nuclear divisions and of occasional abnormal mitotic divisions, *i. e.*, divisions in which more chromosomes pass to one pole than to the other.

"(2) The physiological resemblances are: (*a*) the disease is not an abscess, but an abnormal organization process. (*b*) The growth is extraphysiological and detrimental to the plant. (*c*) The growth tends to return after excision. (*d*) It tends to develop in wounds or irritated places. (*e*) There are grades of virulence. (*f*) The structure of the gall is looser than that of normal tissues, and decay often sets in early, forming open wounds subject to secondary infections. (*g*) The conductive tissues in the gall are thinned out and reduced in thickness of wall, etc., much as in sarcoma. (*h*) The nuclei are hyperchromatic and often stain deepest on the edges of the growth, as in cancer. (*i*) There occur in excess in the morbid tissues certain

cell products (chemical substances) serving to distinguish the anaplastic cells from normal meristematic or embryonic tissues. (*k*) In some cases increased resistance has been developed by inoculations.

Dr. Kinyoun said that the address was most interesting, and the result of Dr. Smith's arduous labors has been to open a new field for the study of the cancer problem. Many years ago, when stationed in Washington in connection with his duty in the Marine Hospital Service, Dr. Kinyoun resided on the same street as Dr. Smith, and as he set out for his daily duties each morning he often observed Dr. Smith starting with the same object, and often he remarked to himself: "There goes a crank." Afterward Dr. Kinyoun became acquainted with Dr. Smith and then learned that Dr. Smith had in the previous years been making the same mental remark concerning himself. The result of the acquaintance was that each became mutually interested in the other's work. At that time Dr. Smith showed Dr. Kinyoun some of his work and also called his attention to an editorial in a scientific journal ridiculing Dr. Smith's ideas. Dr. Kinyoun thought that there has been abundant reason for that particular editor's revising his views. Whether anything else comes of Dr. Smith's work or not it is certain that he has demonstrated the mode of metastasis of certain plant cancers and has demonstrated a causative organism in the cancer cells, both of which are discoveries of monumental importance. But has all this anything to do with the human problem? The tissues are so different that at first sight connection between the two problems would seem unlikely; but we have so often had occasion to revise our preconceived ideas that we all should consider the facts very fully and with the greatest respect before they are dismissed as irrelevant. We formerly thought that cancer was confined to very few animals, but we now know that it is very widespread.

Dr. Smith had addressed himself to the task of isolating an exciting organism in certain plant tumors and had succeeded. Dr. Kinyoun is of the opinion (as is Dr. Smith) that there is some force within the cancer cell which causes the unregulated growth of like cells, and that this force is an entity just as specific as any specific bacterium. Just as it has been shown that poliomyelitis is due to a specific organism, and that we do not know the whole of the pathology and etiology of that disease when we judge by the lesions in the nervous system alone, so Dr. Kinyoun believes we will find that in cancer there are mild and severe infections with varying outcome according to the infection present.

Dr. W. P. Carr was always interested in the cancer problem and had listened to the address very eagerly. His interest had been claimed particularly by the statement that the presence of a

few bacteria in some cells was sufficient to excite the propagation of many other cells, themselves free from bacteria; this must be explainable by assuming that the bacteria secrete some toxin that produces the result. It was of the utmost interest to observe also that the stimulation to overproduction was not exerted on the cancer cells alone, but also on the cells of the normal woody structure adjacent to the tumor. We see analogous conditions in human cancer. There seemed to be some wide differences in the ability to inoculate different plants. It is known that it is difficult to inoculate human beings with cancer; it seems that there must be some special conditions necessary in order to infect the human animal. Dr. Carr had always somewhat doubted the germ origin of cancer; a specific organism is not entirely necessary to explain the origin and unregulated growth of cancer cells; there are two other reasonable explanations, viz: lack of normal nerve control of tissue growth or renewal, or the stimulating effect or some toxin. In support of these ideas are the well known facts that cancer most often occurs at an age when there is nervous instability, and in tissues undergoing radical physiological changes. He has always believed that cancer never occurs in healthy tissues, but only in tissues subjected to long-continued irritation. Cancer occurs more often, also, in persons who are victims of chronic autointoxication and who reside in highly civilized communities. He asked Dr. Smith if any of the germs are found in the secondary growths or only in the primary tumor.

Dr. A. F. A. King asked Dr. Smith if he had ever been able to cure these plant cancers by operation? Has he been able to propagate new growths by direct inoculation of tumor tissue? Were the tissues perfectly healthy when inoculated? Was the process of inoculation tried on old plants as well as young ones? and if so, were the results the same?

Dr. Jack said that the facts set forth in the address indicate that Dr. Smith has carried his work on plant cancers to a point in advance of any other workers in the field of neoplasms. Mouse cancer has been propagated by the inoculation of cancer cells; but Dr. Smith has gone much farther, and if in the same manner an organism can be isolated and cultivated from human cancer cells the problem will have been solved. The work of Dr. Smith also points to the wisdom of very radical operative treatment of all cases of cancer in the present state of our knowledge and on the basis that primarily cancer is a local disease.

Dr. G. Wythe Cook asked if the soil becomes infected about the beets or other vegetables which exhibit this tumor.

Dr. Erwin F. Smith was always glad to have criticism of his work, for thereby he learns much. The effects of this tumor on plants are variable, depending on the species, age, place of inoculation, state of nutrition, etc.: the plants may be killed by it,

and speedily in some cases; in other cases the plant may live a long time, or recover. But there is this difference between a plant and a man: the animal is a unit, and if he dies all of him dies; on the other hand, a plant is a very compound organism, and if a limb is lost another may replace it; or a cutting may grow into a new plant, while the original succumbs. He believes that many persons and plants have in their lives had cancer and have got well; there is clinical and histological evidence of recession of cancer. An important feature of the specific organism of these plant tumors is their great scarcity; it is estimated that there may be only 200 living organisms in a cubic centimeter of tissue, and it is possible to cut out a whole c.c. of tissue and not find a single living organism in it. This is the probable explanation of the failure of many efforts to inoculate cancer tissue; the tissue inoculated may not have contained any organisms at all. He had been able to discover these organisms only after he had learned to inoculate the plates with very large quantities of tissue. Another difficulty is that the organism often dies within the cell; it seems to elaborate a self-destroying substance; the germs very speedily go into involution forms, and when so found they are dying or dead. These forms outside the plant are produced under the influence of cold, dilute acids, salt solution, etc. There is great variation in the virulence of different colonies in a plate. The soil does become infected about plants suffering from the tumor and it may remain infected for years. It is quite likely that the state of general health, and especially the local health, of tissues may strongly influence the liability to cancer and the course of the disease if once established; but we know that sarcoma often does best in young tissues. The crown gall undoubtedly grows best in young, growing plants. He has tried repeatedly to check the disease by excision, and has succeeded, but the disease very often recurs because of the extension of tumor strands, beyond the excised part.

An amusing incident happened some time ago in one of the Paris courts of justice. A vain, haughty woman was called as a witness, when the magistrate inquired her age.

"Twenty-five last August," promptly replied the lady.

The next witness was a young man, who at once acknowledged that he was twenty-seven years of age.

"Are you related to the last witness? queried the magistrate.

"Yes; I'm her son," he replied.

"Ah!" mused the magistrate, "your mother must have married very young."

THE MANAGEMENT OF JUVENILE PSYCHASTHENIA: WITH CASES TO ILLUSTRATE SUCCESSFUL TREATMENT.*

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Definition.—The conception which Janet has formed of psychasthenia is described by him in so masterly a manner as "mental uneasiness, a state of disquiet, feelings of incompleteness, without anatomical lesions." These are interpreted by him as due to the diminution of psychological tension. Hence the superior functions of the brain, those of correct associations of ideas and emotions, are replaced by such inferior activities as motor impulsions, such as tics, dromomania and other motor agitations; emotionally by distress (angoisse) and morbid fears (phobias), and intellectually by mental ruminations and manias. It is the interpretation of this state by the patient of intellectual type which leads to more systematized obsessions, which it is useless to attack directly by persuasion, for they represent a much more profound cause, of which they are only a last expression. Janet recognizes the likeness of this condition to that found in cerebral "neurasthenia" of the classic type and some kinds of paranoia. There are certain resemblances also to epilepsy and hysteria. He thinks the psychasthenia may be due to an intoxication or congestion, varying with the influence of infectious disease, fatigues and emotions in accordance with a predisposing heredity.

The syndrome which Janet calls psychasthenia had often been noticed previously and described under such names as cerebral neurasthenia, phrenasthenia, disequilibrated degeneracy, monomania. Janet's great merit is to have shown the essential identity between manifestations which appear so different. For example, he has shown that agorophobia and claustrophobia are really two variants of a state of fear which has become morbid by being inopportune and out of harmony with reality; furthermore, the states of phobia, or angst, are merely two of the manifestations which the same patient may show when suffering from psychasthenia. Motor impulsions, of which the tics are a striking example, are merely another way in which is expressed the fundamental state of "incompleteness."

In some patients, neither emotional nor motor symptoms are conspicuous; but the asthenia of the psyché reveals itself by a state of intellectual doubt, by need for verification of minute de-

* Read before the Medical Society, November 13, 1912.

tails and indecision, and a feeling of difficulty in arriving at certitude regarding the reality of anything. Janet considers the last the cardinal symptom of psychasthenia, and calls it "the loss of the function of the real." Naturally, this leads to a longing for moral support and comfort and affection, and entails a fear of being alone, or in extreme cases, sometimes the moral distress leads the patient to relieve it by artificial excitants. Work and pleasure may be employed; but too often nepenthe is sought in narcotic drugs or debauch.

PSYCHASTHENIA IN CHILDREN.—The full syndrome is only possible in persons of complex intellect with highly developed emotions. Hence, children can hardly show it completely. Janet, moreover, studied psychasthenia in children only retrospectively through the reminiscences of his many patients. Although he himself indicates the conditions in childhood which favor the psychasthenic state, he has not unraveled its genesis so completely as have more recent analyses of psychoneurotic persons.

All agree that the scrupulosity and over-consciousness which mark the psychasthenic character are the result of over strict training ill-adapted to the need for untrammeled unfolding required for a child's proper development. The moral and religious sanctions which appeal to the adult are injurious to this development, unless they are specially adapted to a child's intelligence and needs.

This opinion, although well founded, is based upon wide observation rather than upon individual analysis of children; for I know of no psycho-analyses of young children by trained men, with the exception of one made on a five-year-old boy by Freud, which is vitiated as an experiment because the boy's mother had been analyzed by Freud and was herself permeated with his ideas, so that it is impossible to exclude the influence of these upon her child.

Thus it is particularly gratifying to be able to bring forward some observations of psychasthenic children whom I had the opportunity of analyzing. More especially is this satisfactory because recovery was obtained in each case, and best of all this occurred without the enormous expenditure of time which is believed to be essential for reaching the curative point in a psychoanalysis. Working against time to catch a train, three-quarters of an hour sufficed in the first case, and not more than an hour was consumed in the examination of the second case. In both cases, however, the history had been previously obtained. The third case, in an older child, one more complex, although not completely analyzed, was cured as a result of four interviews which averaged less than an hour each. This economy of time is only possible to one who is experienced in psychopathological technique and data, so that he may not be led by false scents

to explore by-paths without practical significance. When this capacity is attained the method can be employed in private practice; and even dispensaries should not be deprived of its advantages, for there are few procedures of practical medicine in which the direct benefits are of greater value than in the restoration to economic and social capacity of the suffering psychoneurotic, who is not only a sufferer himself but a burden to all his connections.

CASE I. TICS FROM MONOMANIA.—A girl, aged eight years, an only child, was sent to a Washington sanatorium because of numerous grimaces and gestures. These led her attendants to believe she suffered from chorea, to give her large doses of arsenic and to isolate her from her friends, while overfeeding her. At the end of a month she returned to the country, the morbid movements having ceased, but suffering from insomnia and unable to go to school, in the belief of the parents because of her "nervousness," which was especially conspicuous when reading and studying were required. When she was nine years old I was asked to see her by her uncle, Dr. Perrie, of Lyons Creek, Md., in the hope that something further could be done.

I found a well-nourished, self-contained, sensible child, without apparent shyness, overforwardness or hyperexcitability; but she was apt to talk rather fast, and stammered now and then. I soon discovered that she was fond of play and the companionship of which she had been deprived, to compensate for which she made believe that the objects and persons of her play were real. So rigorously was she protected that the conceptions of lying and stealing were hardly clear to her. She had been strictly managed, scolded and repressed a good deal. She was once whipped for persistent dawdling on her way home from school. She did not remember other corporeal punishments. Her life, however, was not felt to be unhappy, for she was very obedient and was not galled by the good manners expected of her. However, she wanted to grow up, hated persons to call her little, and disliked the spoiling which was a tendency of her father before her sickness. Although she did not repine at staying from school, she wished to learn to read and write, but as lessons agitated and kept her awake she employed herself in play.

The Psychological Mechanism.—The source of the movements she had made was revealed after some hesitancy. It seemed that her mother had taught her when aged about five years that persons lived by inspiring the air and what they expired was hurtful. This thought led to a distressing compunction about the noxiousness of her breath; if it was bad it must hurt others. Now, her training had been such that to hurt others was a great offense, but not to breathe was to die. Out of this dilemma she found a way. Hurts could be mended; when injured did not some one "kiss it better?" Could not she then kiss better

her own bad breath so that it would not injure others? Accordingly, she made movements of her lips, which represented the healing kiss to ward off the danger of the deadly air she expired.

Later on her discontent was augmented by scruples against the injury she did by walking upon creatures with the hard and sharp heels of her shoes. Even the planks of the floor were of the animated world, which it was wrong to destroy or injure. To assuage the distressing thought of this, compensation must be made. She found it in another legendarily therapeutic procedure, the healing touch. So, it became her habit, before walking over an object, to bend and touch it with her hand.

These procedures belong to the class of mental manias which Janet has called manias of expiation. In their motorial character they approach the tics, into which they gradually blend. That they had done so to some extent in this case is shown by the fact that the kissing nature of the lip movements had not been suspected.

That the movements had not developed entirely into mere symbolic vestiges of their original purpose was due to their arrest comparatively early. That they would have developed into characteristic tics is confirmed by the distress the child suffered in overcoming them. She did so after being in the sanatorium a few days, and did it deliberately and by a hard struggle, because she wished to return home and they had promised that she could do so if the movements ceased. It is possible that the nurse who said this had an inkling into the psychological character of the child's disorder. After she succeeded the desire to repeat the movements quickly ceased, although she does not know that she was enlightened regarding her notions about the hurtfulness of expired air and hard heels.

Proceeding to the genesis of the insomnia and difficulty in reading and study, interrogation showed a simple mechanism. Apprehension as to their consequences was raised in the child by the attitude of the parents, whose open fear lest they should perturb the child reminded me of the procedure of the mother of the boy whose hysterical hydrophobia was precipitated by her sitting by his bed reading about rabies two weeks after he had been bitten by a supposedly mad dog. (Miller, *Jour. Abnor. Psy.*, 1910). So in this case the ostentation of their solicitude provoked in the child that which they feared.

Treatment.—The explanation of these mechanisms to both parent and child was the first task, and it proved simple, for they were intelligent persons. The corollary that the child was not morbid except by induction was then set forth. The conclusion was that the child should resume study and return to school in the fall in every respect like an ordinary child, now that the mother and father were warned against the evil consequences of unwise solicitude and the induction of hyperconscientiousness

in matters beyond the intelligence of a young child. The result has justified expectations, the child taking part in the school life with enjoyment.

Some might explain the case as a "fear wish" reaction of the edipus type in relation to father and mother. Indeed, to the exponents of the theory upon which it depends, the patient's history is not without significance, and in the absence of a dream analysis they cannot be satisfied in rebuttal.

The fact, however, rests that a painful complex originating at least by the fifth year had resulted in psychogenetic symptoms, and this complex depended upon a moral concept in which the sexual life seemed to play no part whatever. This plain mechanism of fear of bodily harm from without seems to be a much more fundamental feeling, if one is to appeal to phylogeny, than is that concerning the relations with others termed sexual. Even hedonic affects occurring autochthonously in childhood, although of the same genus as that which later effloresces into sexual emotivity, do not by any means in themselves give origin to perturbations of the psyche either in childhood or later. I say in themselves, for I believe that the perverted affectivity from which arise so many obsessions, phobias, etc., is always the product of induction, if not directly and naively from without, at least by logical induction from data acquired by observation or didaction of the conventions of family and social life; many other examples of this are revealed by psychoanalysis. The child's avidity to relate himself correctly to these, to behave as a grown up, that being of marvelous privileges, is not sufficiently realized. It makes him seize upon the most trifling detail for imitation. One of his objects is to transcend the amusement he provokes in trying. The shame he feels at the ridicule with which his attempts are so often met causes him to keep them to himself in half shame.

Case II.—Thus in a case of which the analysis occupied over a year, and would accordingly take too long to recount, the obsessions, which were mainly sexual scruples fundamentally, had as their basis the moral and religious repressions of the patient's childhood. It was the horror and loathing of everything pertaining to the corporeal which caused the child, when aged six years, to look upon a hedonic state which used then to occur as a sinful one, which prevented even speaking of it to the mother, and which was the incentive for the repression of indulgences demanded by a most affectionate nature, for in the family all display of affection was discountenanced. It was the lurking fear of that which was awful, because unfaced and vague, but which contained inexplicable potentialities for evil, which later permeated the patient's relations with fellowbeings to a degree that produced utter incapacity for daily life, until relief was obtained from the results of an analysis begun five years ago, so that now existence is a pleasure.

CASE III. PREPUBERAL IMPULSIONS.—Let me ask you to contrast, on the one hand, the loss of a quarter of a century of fruitful activity by this patient, the lack of good sense in whose upbringing was so late compensated for by what we have learned of psychopathology, with the immediate compensation of an entirely similar syndrome in a clergyman's child, aged ten years, whom I recently saw. One day she would be well and the next crying, feeling miserable, tired and dizzy, with a dull headache as a result of lying in bed thinking. The preceding summer, at school, she had been irritable, cross, impatient, and quarrelsome with her sister. She had formerly been easy to manage and full of life and joy. Her mother was most anxious, and took pains to avoid startling or fatiguing her, and, in the belief that it exhausted the child, forbade the impulsive squeezing and kissing which the child frequently desired. She had noticed that the little girl was less impulsive and irritable when having something to do, but she had been taken from school, which seemed to aggravate her nervousness.

The physical examination was negative, with the exception of a slight hyperopic astigmia and a variable visual acuity without apparent cause (Dr. F. N. Chisolm, who referred her).

Psychically, intelligence was normal. She was timid, hyperconscientious and much concerned at having been reproved for impulsive shouting, for violent hugging of her parents, and because of some *eau de cologne* she took. This had really been taken by a little sister, who was punished for it. She was sometimes so unhappy and miserable that she did not want other children near her, and she was most unhappy because she was not allowed to show her affection for her father and mother, of whom she is very fond, more especially of the latter. Her dreams are rare, but she recollected one of a white-bearded man who dragged her from bed by her hair, and another of a wild animal trying to eat her. I could not at the time obtain any associations from either of these, and, indeed, I was more concerned relieving without delay the intensity of the repressions which made the child's life a burden.

A physical factor complicated the case, the child eating excessively of meats and oatmeal, and making her principal meal at night. I believe this was the initial cause of the irritability of temper and the impulsiveness which led the overconscientious parents to repress overmuch.

TREATMENT.—Mid-day dinner was prescribed, and a supper mainly of carbohydrates and fruit, after which she should not go to bed for at least an hour.* On waking in the morning the child was instructed to make a practice of getting up and going outside instead of ruminating in bed. The parents were told to avoid

* See "Diet in Nervous Disease," read before Medical Society and published *N. Y. Med. Jour.*, Sept. 24, 1912.

nagging her about trifles, and her behavior was to be left to take care of itself at present. Her affections were to be indulged and reciprocated; she was given plenty to do and was sent back to school in a few days. This policy resulted in complete recovery within two weeks, the child being as happy and joyous as she formerly was.

DIAGNOSIS.—I considered this a prepuberal emotionalism attributable to an incorrect dietary and greatly aggravated by parental interference, well meant but entirely injudicious. This last, the psychogenetic factor of the situation, was the main pathogen of a state which might have eventually attained a gravity like that of case (II) with which it contrasts.

Thus the psychasthenia of this little girl was cut short long before its root branched into mental manias, or before there was a hint of obsessions or phobias. It may astonish one, indeed, that I include this case in the psychasthenia of Janet, as it is without the stigmata or cardinal symptoms of that disorder, if we except the impulsiveness and the inadequacy, which were hardly even conscious. The justification of such a diagnosis need not, however, detain us, for it has been set forth in explanation of the case of a child, aged only two years, which I reported to the Psychological Society of Paris in 1910. (Also *Arch. Pediatrics*, Oct., 1910.)

CASE IV. A SYMPTOM WHICH IS OFTEN PSYCHASTHENIC IS STAMMERING.—The ten-year-old son of a Washington attorney was referred in November, 1910, by Dr. Spiller, of Philadelphia, for advice regarding a stammer of two years' duration and for "general nervousness." A brother who had formerly stammered at the same age had recovered after six months spontaneously; but the expectations of the parents that this boy's stammer also would disappear were not fulfilled. He stammered worse when tired or when intent upon speaking correctly. In play, he rarely stammered, and a sentence was never interrupted by a stammer. The boy was fidgety, especially on speaking; but his writing was not jerky. His attention was easily tired. He was not overstudious. He did not tremble. He was not constipated. He detected differences of pitch.

His chest was contracted in front, and measured during quiet speaking twenty-three and one-half inches, expanding to twenty-four and one-half inches. By forced inspiration it could reach twenty-nine and one-quarter inches. In singing he expanded to twenty-seven and one-quarter inches. The scaphoid scapula was not present.

I omit the detailed psychic examination for the sake of brevity. In short, the cause of the stammer was a common one, the dread lest he should stammer, added to or supplemented by an insufficient preliminary inspiration. The attempt to force the voice to overcome these difficulties only added to the glottic spasm; and the

contortion of the muscles of forced expiration due to his apprehension.

A series of exercises in control led to his recovery in a few months. Now the treatment of this boy succeeded only by virtue of taking into due account the psychasthenic factor in the production of his stammer ; and while that was attended to, the boy remained well for several months. I have again seen the boy since this paper was read. I found him much better than I was led to suppose, although the high pressure of school life has interfered with complete recovery, as he sometimes attempts speech in the expiratory position, which of course produces stammer.

Case V. Multiple Manias of Expiation.—However, in the following case the psychasthenic syndrome was in full efflorescence :

A boy, aged thirteen years, was referred by Dr. Guy Latimer, of Hyattsville, Md., because of extreme timidity, many "nervous" tricks and an inability to concentrate his attention. The most conspicuous symptoms were an arithmomania, a mania for verification, including a "délire de toucher" and a "manie du sort," one of the forms of which was the imperative need of lying on his back on the floor at frequent intervals while dressing in the morning. These various mannerisms intermitted and replaced one another.

Analysis revealed that all were in reality expiatory penances for a jealousy of his little brother, which had already begun at the age of three, when he asked that the baby be thrown from the window, and once banged his head on the floor while enraged. He himself had always been much petted, and he craved it. It was the reproval of an aunt which first created the shame for his jealousy and led him to make penance in these fashions. Latterly, he had been urged to cease his peculiarities, and can stop any of them, when on the alert, by a hard struggle. His distress at doing so, moreover, soon passes away. But his frequent absence of mind in day dreams, which he loves, interfered with his endeavors. This tendency was favored by his not having been allowed to play the games of which he is fond with the boys in the neighborhood, which is a rather rough crowd.

This desire for expiation began when he was aged between three and four years, by thinking it was mean not to give his toys away, and so he gave them all to his brother. He was told that it was naughty to be jealous, and he felt ashamed but did not cry, but just sank into himself and said nothing. He still reproached himself. If his mother did not pet him for a week he thought she did not care for him, and so he would be unhappy.

He does not know the reason why he is jealous of his brother, for he loves him, and they do not quarrel much, even when the other cheats at play. It is in the morning and at night that he

is most beset by his manias, and he feels things would go wrong for night or day if he did not perform them. He declares, "I always seem to want to do something I do not want to, because I do not want to." He does not know why. He has no shame of body or sex, as he has been fully instructed. He is very religious, believing in heaven and hell, that he must be good, and feels that he ought to make himself sad because he does not like to be sad; but he is so prone to sadness that even as a baby music made him cry. So conscientious is he that he undertakes every task with too great violence, quickly becomes exhausted and then has to fight against the dreamy tendency which supervenes.

TREATMENT.—Having explained together the genesis of his desire for penance we decided to concentrate attention upon only one of his manias at a time, in order to break one by one the habits he had formed, and he was to take up carpentry work in order to combat the tendency to day-dreaming. His diet was also rectified.

More and more control was soon obtained. On last hearing from him, a year later, he had taken a position and had overcome his disabilities.

The psychogenic factor in this case was obviously the unwise manner in which an affectionate infant's natural jealousy was reproved by over-religious relatives. The awfulness of the sin fostered the poor boy's shame thereat, and led him to the type of expiation which follows from a misapplied asceticism.

GENETIC TYPES OF PSYCHASTHENIA.—Thus in its essence psychasthenia arises as a reaction of discomfort and anguish against unnatural repression. It is psychogenic in this form; but there is perhaps another type which proceeds from a general uneasiness of the body due to a toxic factor.

CASE VI.—Such was the case of a child of two whom I saw in the dispensary at the Children's Hospital, of Washington, with Dr. Donnally. Distressing howling without relation to extraneous stimuli, the eating of sand and clay, the maintaining of a large deep sore on the wrist by scratching, were among the chief symptoms which betrayed her general discomfort, against which these were morbid reactions. I interpreted them as due to what would have been shown in older persons by a sentiment of incompleteness. The cause was believed to be a diet almost exclusively of strong coffee and milk since the age of three months. The case was reported in full to the Society of Psychology of Paris, and was published in *Pediatrics*, 1910.

RELATION TO HYSTERIA, ETC.—The fact that the disorder may be psychogenic does not identify it with hysteria, the psychogenic disorder *par excellence*. There is still much difference of opinion how we shall define hysteria; but as I see it, the essential character of the disorder is that it is induced by an idea. This may be revived from the patient's mind by an occurrence

which strikes an associating idea or it may be direct by what is regarded as suggestion. The mechanism is the same in each case, and the term suggestion is appropriate for both.*

THE MECHANISM IN PSYCHASTHENIA.—The induction which results in psychasthenia, unlike that in hysteria, is indirect. The patients, indeed, are not suggestible and cannot be hypnotized as can hystericals. What is induced is a general state of ashamedness, timidity and scruple; and it is from this morbid root which springs, by psychological processes entirely natural, the train of ruminations, anxieties, morbid fears and manias to touch, to count, to search the past or future, to explain, to verify and repeat, to attain perfection and the mysticism which springs from this desire. The mania to compensate, to expiate and to make compacts with Fate, too, proceeds from a feeling of unworthiness which a scrupulous person has. From this root spring also the morbid fears of objects, of situations, even of one's own thoughts and bodily functions. The anxiety neurosis is simply one of the ways in which is manifested the psychasthenic state. A full discussion of the reason for the belief, in disagreement with Freud, is given by Janet, but would take too long to recapitulate.

The relation of psychasthenia to tic has been indicated above. The impulsion to tic is derived from the general discomfort and nervous instability being focused by peripheral or central irritation upon some particular part of the body or upon some action. One type of occupational dyskinesis is an interference with the action desired by an impulsive tic which takes possession of the muscles needed for the desired act. In the author's studies† of writer's and telegrapher's cramps this is discussed at greater length.

Finally, neurasthenia must be considered. I am of those who believe it advisable to cease the use of this term, or at least to restrict it entirely to cases of abnormal fatiguability which is not induced by an idea nor caused by infections or toxins, disorders of metabolism or perturbations of the internal secretions. It is certain that psychasthenic symptoms appear quite apart from fatigue, which psychasthenics can sometimes support for long periods. Hence the treatment of the disease by extranutrition, rest, or any physical procedures is in psychogenic cases both superfluous and harmful, in that it detracts attention from the real source, viz: the psyché of the patient.

FOR CORRECT TREATMENT.—Proper knowledge of the constitution of the mind of the child is the only foundation upon which to build this successful therapeusis. The diagnosis into categories, such as hysteria, neurasthenia, phobia, monomania, followed by an empirical treatment, is utterly useless because not ac-

* See Nature of Hysteria, *Int. Clin.*, 1908, iii; also *Am. Jour. Med. Sci.*, August, 1910; also Treatment of Hysteria, WASHINGTON MEDICAL ANNALS, Jan., 1912; *Post Graduate*, June, 1912. Recent work upon Hysteria, *Jour.*, *A. M. A.*, Dec. 21, 1912.

† *Jour. Psych. u. Neurol*, Leipzig, May, 1912; also *Jour. Abnorm Psychol.*, 1912, etc.

companied by adequate notions of the process occurring in the mind of the patient. Doctors who treat neurotic persons with such inadequate equipment will meet with even less success than do the followers of an unlicensed cult; for these have a conception, however erroneous, of psychological mechanisms, and it is a conception which happens to fit a certain proportion of cases, whereas the usual physician's conception fits none at all. And a neurotic who gets well under his care does so not because of his medical treatment.

Now, psychological mechanisms are most pure, and hence most easily understood, in children, and it is in order to appeal to pediatrists and physicians for proper study of the nervous children they see that I bring before the profession the foregoing considerations.

I should like to add that one of the reasons why pediatrists do not take more interest in neurotic children is because the books generally take this subject up in such an unsatisfactory, vague manner. Epithets rather than causal mechanisms seem their aim. My paper is an attempt to show some mechanisms at work in individual children. The analysis and therapy do not require any special ability, merely a serious study of the child's usual and unusual modes of thought. Most of us can study this upon our own children. Besides, the analysis is easier than in the adult, for a child has less complicated motives for concealments.

Psychic disorders should be observed and analyzed clinically by a scientific method essentially similar to that used in all clinical and experimental medicine. Loose, general terms have no diagnostic value until conceived with definite meaning. Such an *olla podrida* as "neurasthenia" must be either restricted or abolished if progress is desired.

Of the cognomen "hysteria" the same may be said unless the term is used in a definite sense like that of Babinski, "any symptom producible by suggestion." The lesson of my cases is not the cognominal diagnosis, psychasthenia, but the revelation of the mechanism of each separately and its removal by rational measures very different from those found in any text-book of pediatrics or even neurology.

Psychotherapy, that much abused term, is the method essential for such cases; but by that word *I do not mean suggestion* or crude encouragement. That will take care of itself. I mean enlightenment by the knowledge which comes from a long and patient study of many psychological cases. In other words, he who treats a psychogenetic case must possess the fundamentals of psychopathology, which can be as little learnt of books as can morbid anatomy or clinical medicine. It is only by *well instructed practice* in handling the material that expertness in this as in all arts can be attained.

Although obvious this is little realized, or we should see fewer

attempts of unskilled men to treat psychic cases, and there would in consequence be fewer Christian Scientists and other false mental healers whose procedure, like that of the ostrich, only blinds one but does not furnish escape from the psychological wolves of the epoch.

Dr. Hickling said that the paper was not only of great interest but also of timeliness. While it has been a number of years since the slogan was first sounded for the necessity of psychotherapy it has taken the profession a long time to comprehend what the movement signifies. He had been interested in hearing a European lecturer recently in New York present a number of psychasthenic cases; the doctor seemed satisfied with making a diagnosis and giving a rather bad prognosis; the only treatment suggested was a loose regime of relieving of worries, giving arsenic and letting the matter work itself out the best way it could.

In strong contrast with this was Dr. Hickling's experience with Jung, of Zürich, who had taken patients from Bellevue with strong psychasthenic taints, some of whom had been called cases of dementia precox, others of hysteria. Many of these, in Jung's hands, after analysis, were shown to be simple complexes, and by simple psychotherapeutic means cures resulted. Such instances illustrate the fact that in these cases physicians who rely on the usual physical means of therapy meet with a stone wall; and it is in such cases that the expert in psychic diseases may achieve success.

In children the psychic mechanisms are more simple, and so psychoanalysis is relatively simple. He was surprised that Dr. Williams had omitted reference to the analysis of dreams, and had apparently satisfied himself with the study of the immediate origin of the symptoms.

No allusion had been made to the sexual foundation of many cases of psychoneuroses. Jung has elaborated the Freudian idea, so that much more is included in the term sexuality than we usually include in the word. Jung holds that only two forces actuate humanity: forces leading to nutrition and to reproduction. The suckling infant is not sexual, his instincts are all nutritive; but with the advance of age nutritional instincts may go over into the realm of libido. Jung recognizes libido as a natural force, moving in expression from point to point, and when pathological causes manifestations which may be classified ultimately under the head of absence or condensation of libido. When rightly understood these modifications, by Jung and others, of the Freudian idea make a working theory of great value. Even with the repugnant ideas in the original Freudian theories many workers had accepted them as, first, the only thing available in elucidating the problem, and, second, as bringing results otherwise lacking.

Dr. Williams was sorry that the discussion had been put on the unpractical plane of Dr. Hickling's remarks, as Dr. Williams wanted to avoid the fundamentals of psychoanalysis and thought that a general society was hardly appropriate for polemics as to the various schools of psychopathologists. He had merely wished to give a few concrete instances of the application of the psychoanalytic method as illustrative of the simplicity of the practice in children, once it is well understood.

Regarding the sexual factor, the absence of this element was specially set forth in his cases which had been presented from this aspect before the American Psychopathological Association, its absence in the sense of the Freudian theory. As to the word *libido*, it seemed better to use the term *hedonic*, long known in philosophy, coupled with the modern German word *affect*, as the desire for a pleasant sensation may not be sexual. This enlarges the sense towards practical usefulness and does not commit one to an exclusive theory. So far from the Freudian ideas causing disgust they should not be more disgusting than the smells and sights of a pathological laboratory, which are ignored by the mind seeking truth. Obscene sociological situations sometimes disclosed by psychoanalysis are not particular to this method, but as biological phenomena to be studied and helped, are encountered by every observant and thoughtful physician who will not permit his duty to his patient to suffer from any personal feeling like disgust.

He had hoped to hear from the pediatrists in the discussion, because they meet with many psychasthenic children and too often put them off with no further treatment than some futile physical means. A little psychopathology here would save our profession considerable odium.

In the cases reported he had been astonished at the ease with which the key to the situation had been discovered and at the very rapid cure he had been able to effect. Thus it may be seen that the methods are quite practical, and are available to every practitioner who takes the trouble to acquire the principles upon which depends the occurrence of psychogenetic disorders, which are simpler to study in children than in adults.

A Dentist's Troubles.—"Well, did he pay you?" asked the wife of a dentist who had been to collect a bill for a full set of false teeth that he had made for a man almost a year before.

"Pay me?" growled the dentist. "Not only did he refuse to pay me, but he actually had the effrontery to gnash at me—with my own teeth!"—*Medical Brief.*

SOME GENERAL REMARKS UPON THE SENSE OF HEARING, ESPECIALLY FROM A HYGIENIC STANDPOINT.—ABSTRACT.*

By Walter A. Wells, M. D.,

Washington, D. C.

[The author first called attention to the need of wider knowledge of the fundamental principles of audition and the errors in practice which flow from a neglect of them.]

Hearing in its true sense, the perception of vibrations giving rise to an impression of tonality, is shown to be a function beginning only with the amphibia. Animals in a scale below these may become aware of the vibrations of a sounding body, but they are perceived only as a trepidation, through the possession of what is called a sense of seisesthesia.

The fully developed cochlea as we find it in man is a marvellously-constructed organ, adapted preëminently to the transmission and perception of sound waves, reaching us through an atmospheric medium.

The conducting apparatus will be seen to have many ingenious features, contrived to transmit the sound waves in such a way that they shall come with just the right amplitude, periodicity and form to impress the delicate and sensitive hair-cells of Corti's organ. Thus we see the drum membrane with its peculiar conical shape designed to efface its self-tone, and a tension varied from center to periphery, to avoid the emphasis of one tone over another, in the act of transmission; thus we see the chain of ossicles attached thereto, for the purpose of acting as a damper and preventing after-vibrations, and the articulation of one little bone with another to form a perfect angular lever, intended to convey the vibrations with the necessary intensity to the oval window; and thus it is, further, we find acting upon each end of the little chain, muscles whose purpose is probably to vary the tension of the oscillating medium, and under circumstances to act as a check against vibrations of excessive amplitude.

Just how the receiving apparatus fulfills its part in the operation of hearing is a much-disputed but still unsettled question.

[The theories of the function of the cochlea and of tonal perception were next briefly considered.] They fall into two main classes; according to one the cochlea acts as a resonating organ, according to the other as a register. The former, widely known as the Helmholtz theory, supposes the fibers of the basilar membrane to behave very much as do strings of a piano when they vibrate in sympathetic resonance to pure notes sounded above them.

* Read before the Medical Society, November 20, 1912.

The register theory, sometimes called the sound-picture or telephone theory, has been ably championed. According to this theory the entire basilar membrane is supposed to vibrate either as a telephone plate or as an elastic membrane, and the different tones, instead of being disposed of in the cochlea itself, are transmitted in their original patterns directly to the brain and there analyzed.

[The arguments for and objections to each of these theories were summarized by the writer.]

[Next the author called attention to the delicacy of the structures of the internal ear,] which nature has evidently recognized in placing it in the most protected position, deep within the petrous portion of the temporal bone. Notwithstanding this it is very readily acted upon by influences coming from within and without.

The harmful effect of loud and disagreeable noises upon the peripheral sense organ of audition is by no means generally realized. The nerve deafness which we find among boiler workers, and the concussion of the labyrinth, with sometimes complete, sudden deafness, which is known to occur from too close proximity to explosions and powerful detonations, are proof of the effect they can have upon the auditory papilla. But he was convinced that many times these delicate nerve structures are being injured by daily exposure to jarring, clanging and otherwise disagreeable noises when the connection is wholly unsuspected by either physician or patient, and as such influences, in addition to injuring the hearing, are likely in time to react unfavorably upon the general system, their discovery and removal are important.

As might be readily inferred from the nature of the peripheral organ of audition and its exposed situation in the labyrinthine fluid (itself subject to frequent alterations), it cannot be otherwise than that it must be readily affected from influences originating within.

The reason we do not always discover these effects is that slight alterations of hearing generally go undetected. Loss of hearing obtrudes itself upon the notice only when it proves insufficient for the ordinary transactions of one's daily life, and for which, fortunately, the normal individual has usually enough, with a little to spare. Whether a slight loss, therefore, in the outer zones of the field of hearing will be realized or not, depends upon whether the hearing was previously normal or already considerably reduced.

An individual who has a capacity to hear ordinary conversation at forty feet may lose as much as ten feet without being conscious of it, but a loss of ten feet to one whose hearing was previously only twelve will constitute an inconvenience that will not merely be noticed but that will be most seriously felt. Besides, if the loss is confined to one side, the other remaining normal, it may

go on to almost complete extinction without being discovered, especially if the affected individual happens to be an unobservant one.

These considerations are in a measure responsible for much opprobrium unjustly cast upon the practice of otology, because they mean that the patient, instead of coming to consult the otologist at a time when his hearing defect is remediable, comes only when the condition is of long standing, very advanced and correspondingly refractory. Furthermore, otology is charged with failure to cure a recent case, though in reality it is probably an old one recently discovered.

The author mentioned in this connection a test recently suggested by Bonnier and regarded by him as infallible for the discovery of threatened deafness. It depends upon the phenomenon of exaltation of contact hearing in the beginning of ear disease. If in the case of an individual with a perfectly normal ear you hold the foot of a vibrating, deeply-toned tuning-fork against the elbow, wrist, shoulder, clavicle, knee or ankle, the vibrations are felt as a trepidation, but not heard. In case, however, progressive deafness has laid its finger upon the individual, though, as yet, but in the gentlest way, the fork will be more than felt, it will be actually heard; there will be, in other words, tonal perception.

As Bonnier has remarked, normal hearing is preëminently adapted to the perception of sounds reaching the ears from without, not from within. When, therefore, internal audition is increased we have a parcousis pointing to a disturbance in the conducting apparatus, which may be manifest at a very early stage, before, indeed, any impairment of aerial conduction has been observed.

Despite the general interest which has been displayed in recent years in the otherwise thorough, systematic examinations made for the discovery of ills and physical defects among the school children, the writer was of the opinion that the ear as an organ of hearing has been somewhat neglected; for, when aural examinations are made, attention, as a rule, is confined to the discovery of material evidence of disease (as the presence of a suppuration) rather than to the discovery of deafness. One does not, for instance, see enforced much systematic attempt at the measurements of auditory acuity, as are practiced for the purpose of discovering visual defect, though the former is certainly not less important than the latter.

It is a fact worthy of notice that the impairment of the hearing faculty in the early educational life of the child constitutes a most serious impediment to the full and perfect development of the intellectual capacities. The child is compelled to expend greater energy in the concentration of attention, and then fails often in reaping the profit from the instruction in the class room

as may his normal-hearing companion. There is no doubt that many pupils classed as stupid and inattentive by their teachers are in fact only deaf.

When it is considered, on the one hand, that these cases of deafness arise, for the most part, from simple conditions in the naso-pharynx or from catarrhal or suppurative inflammation amenable to treatment, and on the other that, when neglected, they have unhappily a tendency to progress and especially to become transformed into adhesive and solerotic processes of a peculiarly unyielding character, the importance of their early recognition and early correction cannot be too strongly emphasized.

The author stated in conclusion that it would indeed be unfortunate if our confession of helplessness in a certain group of cases should be construed by anyone to mean that ear diseases in general have little to hope for from the science of otology. The truth is quite to the contrary, and the argument urged against delay is based not only upon the inefficiency of treatment of deafness of long standing, but just as well as upon the success which marks remedial measures in the early stages.

Practically all cases in the beginning can be decidedly benefited, and probably in as many as two-thirds the cure will be complete and permanent, so that it may be reasonably claimed that the acknowledged failure in a certain class of cases is fully balanced by success in many others.

Dr. McKimmie said that Dr. Wells, as usual, had presented a most interesting paper, as well as a literary gem. The subject is one of great economic interest; the hearing capacity of a citizen has an important bearing on his earning capacity. The effect of deafness upon the attitude of the victim toward society is also of importance; the blind man's expression is nearly always a serene and happy one, but, on the other hand, the deaf man, observing conversation going on about him, but unable to hear it, becomes suspicious and morose. During the reading of the paper it occurred to Dr. McKimmie to refer to the fact that practitioners are somewhat given to expressing the opinion that if the drumhead is destroyed in a given case the resulting deafness is irremediable; such is not the case, and these patients should have the benefit of thorough treatment, because in a proportion of cases hearing may be restored. It seemed desirable to draw attention also to the importance of advising that children in families in which deafness is frequent should get their education as early as possible, and should be taught lip reading.

As to methods of determining whether deafness is due to disease of the middle ear or the internal ear, much of value has been done by the Vienna school, but there can be no escaping the fact that much remains to be done. He was glad to know that Dr. Wells is now working on a method for measuring the hearing

capacity, and eagerly looks forward to the publication of this work.

Dr. Rench said that in deafness in young persons much may be done to relieve the condition, because so often the underlying causes are to be found in the pharynx, and proper treatment directed to these pharyngeal diseases may cause complete disappearance of the deafness. In cases of paracusis willisiana, due to ankylosis of the ossicles of the middle ear, much hope is to be found in the use of the various forms of aural massage.

Dr. Kober said that as a hygienist he wished to express his interest in the paper and his appreciation of it; he believed it to be a most important paper, from a sociological standpoint. He had been at pains to emphasize the necessity of the early recognition of deafness in children and the application of preventive and remedial measures in all cases of aural disease when, as chairman of the Committee on Social Betterment, he had prepared his report for the President's Homes Commission in 1909. For the purposes of the report mentioned he had secured a medical survey of the school children of Washington, and the statistics showed that of 43,005 children 835 had defective hearing and 312 had discharging ears. That such a large number of children with grossly evident aural defects should be found by an investigation which did not undertake to employ methods of precision to detect deafness makes apparent the importance of the matter set forth in Dr. Wells' paper and in the analysis of the statistics above mentioned; Dr. Kober, in his report to the President's Homes Commission, emphasized the bearing of unprevented and untreated visual and auditory defects upon the etiology of poverty. He felt sure that Dr. Wells would be interested to know that hygienists as well as otologists are concerning themselves with the matter of the preservation of the sense of hearing, and that at the recent Hygienic Congress a strong plea for the suppression of unnecessary noises was made.

Dr. Wells thanked the speakers for their remarks. He only wished to add that one of the great obstacles to measuring the auditory capacity of children is the inaccuracy of the children's responses. It is startling to know that the combined statistics from many countries indicate that about one child in every four is subnormal in hearing power, *i. e.*, unable to hear the whispered voice over 6 feet, when the whispered voice should be heard at about 24 feet.

Serious Mishap.—From the *Kalamazoo Press* we learn that a young lady of Pontiac was "hurt on her birthday." This is more painful than being tanned on one's vacation, but not so bad as being sunburned on one's week-end.—*Journal of the Southern States.*

In Memoriam.

DR. ROBERT FLETCHER.

Doctor Robert Fletcher, Principal Assistant Librarian of the Surgeon General's Office, died in Washington, November 8, 1912, in the ninetieth year of his age.

He was born in Bristol, England, March 6, 1823, and educated in the private schools of that city. He studied law two years with his father, an attorney of Bristol, and medicine five years at the Bristol Medical College and the London Hospital, becoming in 1844 Licentiate of the Society of Apothecaries and Member of the Royal College of Surgeons. Dr. Fletcher came to the United States in 1847, settling in Cincinnati, where he practiced his profession until the outbreak of the Civil War. He was commissioned Surgeon in the First Ohio Infantry in 1861, and saw active field service for two years. In 1863 he was made Surgeon, U. S. Volunteers, was with General George H. Thomas in the Nashville campaign, and was put in charge of Hospital No. 7 at Nashville. Subsequently he was Medical Purveyor at Nashville and at Cincinnati, where he wound up the affairs of his depot, having expended hundreds of thousands of dollars without an error in his accounts. In 1865 he received the brevets of Lieutenant Colonel and Colonel for "faithful and meritorious services." In 1871 he was employed by the War Department to assist in the preparation of the two valuable statistical volumes of the Provost Marshal General's office, and wrote the treatise on anthropometry in the work. In 1876 he became associated with Dr. John S. Billings in the Library of the Surgeon General's Office, and began his work upon the Index Catalogue, which was to occupy him until a few weeks before the close of his life and upon which he lavished his stores of learning and all his capacity for accurate, patient and thorough industry. The medical profession owes a great debt of gratitude for these years of steady painstaking work. He was also associated with Dr. Billings as editor of the Index Medicus for twenty-one years and editor-in-chief from 1903 to 1912. Dr. Fletcher was deeply learned in Medical Jurisprudence and delivered courses of lectures on the subject at Columbian University, Washington, 1884 to 1888, and at The Johns Hopkins, 1897 to 1904.

Outside of the bibliographical work with which his name will always be associated, Dr. Fletcher was a polished and attractive writer of essays on various subjects, mainly on anthropology and the history of medicine. His papers usually dealt with the less well known aspects of his subjects, and are solid and permanent

contributions to knowledge. His style is clear and interesting, without pedantry but displaying the depth of his learning in old English and classical literature, as well as in all the branches of medicine. Among his more important essays may be mentioned his earlier anthropological monographs on "Prehistoric Trephining," "Human Proportion," "Tattooing Among Civilized Peoples" and "Scopelism." The papers of his later years dealt exclusively with the history of medicine and included such interesting titles as "Medical Lore in the Older English Dramatists and Poets," "The Witches' Pharmacopoeia," and "A Tragedy of the Great Plague at Milan in 1630." His last paper, "Some Diseases Bearing the Names of Saints," will shortly appear in the Bristol *Medico-Chirurgical Journal.*

Among the many honors which came to him during his long life was a banquet given him in Washington by leading members of the profession in 1906, with a loving cup and an album containing the speeches and original poems made at the occasion. He was ex-president of the Anthropological, Philosophical and Literary Societies of Washington and of the Cosmos Club, an Associate Fellow of the College of Physicians of Philadelphia, an Honorary M. D. of Columbian University (1884), and shortly before his death he received the Honorary degree of Doctor of Medicine from his own medical school of Bristol, England. The gold medal of the Royal College of Surgeons, a very rarely-given distinction, was awarded him in 1910.

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Dr. Fletcher was a man of splendid physical gifts and of courtly, dignified presence. He was a clear and ready speaker, attractive and witty in conversation, a sympathetic and charming companion.

Your committee begs to submit the following:

Resolved, That in the decease of Dr. Robert Fletcher the Medical Society of the District of Columbia sincerely deplores the loss of one of its most distinguished and honored members; one whose brilliant career, in the literature of medicine, especially, will render his name conspicuously illustrious in the annals of medical history. In every field of duty, in every walk of life, whether as writer, teacher or physician—in peace or war—or again within the social circle of his friends where his kindly genius contributed so largely to their enlightenment and pleasure, the career of Dr. Fletcher will shine as an illustrious combination of the higher and nobler qualities of mankind.

Resolved, That we extend to his bereaved family our sincere sympathy, and that a copy of these notes and resolutions be forwarded to them, as an expression of the same.

(Signed) A. F. A. King,
Walter D. McCaw,
H. C. Yarrow,
Fielding H. Garrison,
Committee.

The foregoing memorial and resolutions were presented to the Medical Society November 20, 1912, and were unanimously adopted.

JOHN ELY BRACKETT, M. D.

After an illness of about five years Dr. John Ely Brackett died at his late residence, 1310 Rhode Island Avenue Northwest, December 2, 1912.

Dr. Brackett was born December 31, 1846, at Rochester, Ind.; son of Lyman S. and Eliza Ann (Rannels) Brackett. Descended paternally from Lieut. Joseph Brackett, of the 13th Company New Hampshire Cavalry, and John Ely, of the 1st Company Sixth Connecticut Regiment, of the war of the American Revolution, and other early colonists of New England, and on his mother's side from early families of Virginia.

He accompanied his parents to this city in 1861. Was educated here in the public schools and at Emerson Institute, and at the Norwalk Academy, Norwalk, Conn. He studied medicine at the Medical Department, Columbian College, known then as the National Medical College, and graduated in 1870, serving meanwhile as Resident Student at Washington Asylum Hospital in 1868. He afterwards practiced medicine for two years at his former home, Richmond, Ind. He then attended hospitals in Munich, Vienna and London, and, taking a course at the Ludwig Maximillian University, Bavaria, he graduated there in 1873.

He returned to Washington in 1874 and practiced medicine from that time until disabled by his last illness. Was House Physician at Providence Hospital 1874–8; physician to the poor during the same period; member of the Board of Pension Examiners 1886–90; Professor Materia Medica and Therapeutics at Howard University Medical School 1877 to 1891; and Professor of Practice of Medicine 1891 to 1908. He was then made an Emeritus Professor.

He served during July and August, 1864, on the Home Guard of Washington; was Surgeon, National Guard of the District, 1880–82; was Acting Assistant Surgeon U. S. A. in 1898–9, on the hospital ship "Missouri," serving in Cuba and Porto Rico.

He married, November 21, 1878, Jeanie Deans Foster, of Fairfax County, Va. He had but one child, a son, who died of typhoid fever while attending the Leland Stanford University.

Dr. Brackett joined the Medical Society April 5, 1876, and the Medical Association in 1875.

Your committee offers the following resolutions:

First, That the Medical Society is pleased to place on record this story of an active and honorable career as student and practitioner of medicine and patriotic citizen; and

Second, That we extend to the widow of our deceased member our sympathy, and direct the Corresponding Secretary to send her a copy of these resolutions.

(Signed) D. S. Lamb,
Edward A. Balloch,
Norman R. Jenner,
Committee.

The foregoing memorial and resolutions were presented to the Medical Society December 11, 1912, and were unanimously adopted.

DR. JOHN KURTZ.

Again it becomes the sad necessity to recall the duties and record the death of one of our members, John Kurtz, who died June 30, 1912, after a prolonged illness due to arteriosclerosis.

Dr. Kurtz was born at Ft. Johnson, South Carolina, his father being an officer in the U. S. Army, as were several of his connection, but the home of the family was in Georgetown, D. C., where lived a large and influential connection. Receiving his early education in the schools of Georgetown and Georgetown College, he received his Ph. B. and graduated from Columbian College, now the George Washington University. After graduating, a young man of twenty-two years, he left for the great and growing West, accepting the position of railway surgeon, and was soon afterward selected, because of his proven abilities, to be Assistant Chief Surgeon of the Northern Pacific R. R. system, which entailed a tremendous amount of work and travel through that, at that time, savage and rough western country; and here his efficiency, resourcefulness and ever-readiness for onerous and hazardous duties won for him the highest approbation of his superiors and the gratitude of those to receive his aid. The history he gave of the practice of medicine and surgery at that time was interesting, living a life often exciting and many times dangerous, filled with experiences of "field and flood." After his marriage he returned to his native town (1892) where he practiced his profession until his death. His quiet, unassuming and unselfish character endeared him to his colleagues and all who knew him; his tact, consideration and thoughtfulness brought him close to those who were brought in contact with him.

It is *resolved* that the Medical Society, District of Columbia, deplores the loss of this member and expresses sympathy for his bereaved family.

(Signed) A. A. Snyder, M. D.,
George W. Wood, M. D.,
Louis Mackall, M. D.,
Committee.

The foregoing memorial and resolution were presented at a meeting of the Medical Society November 13, 1912, and were unanimously adopted.

DR. JOHN E. TONER.

The committee appointed to draft fitting resolutions of respect to the memory of our departed brother, Dr. John E. Toner, report as follows:

Dr. Toner was born in Loudoun County, Virginia, March 14, 1859; educated in the Washington, D. C., public schools, was graduated in medicine from Georgetown University in 1891, and was upon graduation appointed to the staff of the Government Hospital for the Insane, this city; later being associated with Dr. J. B. Hammond, this city. He then entered private practice, in which he remained two years, when he again became a member of the staff of the Government Hospital for the Insane, resigning from that staff in 1905, on account of deafness, and was then appointed a medical examiner in the U. S. Pension Office, holding that appointment until the date of his death, from uremia, October 30, 1912.

Dr. Toner was by nature reserved, but those who had the privilege of an intimate acquaintance with him were stimulated by the influence of his sterling character; knowing the right, he dared pursue it. He was a plain man. He cared not for the superficialities of life. He was devoted to his profession, and brought to the discharge of its exacting duties the application of the student, the enthusiasm of the devotee, the unselfishness of the humanitarian, and the kindly sympathy of the true gentleman.

WHEREAS, The Supreme Ruler of he Universe has, in His infinite wisdom, removed from our midst Dr. John Edwin Toner, a beloved and honored member of this Society; and

WHEREAS, In his untimely death we keenly feel our loss; therefore be it

Resolved, That we sincerely condole with the bereaved family and extend to it our heartfelt sympathy.

Resolved, That a copy of these resolutions be spread on our minutes, and a copy be sent to the bereaved family.

(Signed) F. W. BRADEN, M. D.,
WALTER A. WELLS, M. D.,
E. Y. DAVIDSON, M. D.,
Committee.

The foregoing preamble and resolutions were presented to the Medical Society November 20, 1912, and were unanimously adopted.

PROCEEDINGS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA

Stated Meeting Wednesday, November 6, 1912.—The President, Dr. J. B. Nichols, presided; about 120 members present.

The Treasurer reported for October: receipts, $604; disbursements, $109.28.

Dr. G. W. Cook, delegate to the A. M. A., reported that he duly attended the sessions of the House of Delegates at Atlantic City last June, and introduced an application for formal recognition of this Society as the constituent body of the A. M. A. for the District of Columbia, which was referred to the appropriate committee. He nominated Dr. Henry D. Fry, of this Society, for Vice President of the A. M. A., and Dr. Fry was elected Fourth Vice President; and, at the request of Dr. G. A. Werber, he introduced a resolution providing for the establishment of a section on Mechanical Therapeutics, which was referred to a committee.

Dr. Cook, also as Chairman of the Executive Committee of this Society, reported the following recommendations:

(*a*) To amend the by-laws as follows:

Art. I, Sec. 1: For the words "miscellaneous business," substitute "unfinished business. 9, new business," and renumber the subsequent items.

Art. II, Sec. 1: Strike out the words, "Adopted May 7, 1903."

(*b*) To appropriate $4.61 in payment of a bill from McLanahan and Burton for typewriting preparation of the proposed medical practice act.

(*c*) To appropriate $5 to enable the Treasurer to reimburse Dr. R. M. Ellyson for dues paid by mistake.

The report was adopted and the appropriations ordered.

Dr. Williams, for the Committee on Public Instruction, called the attention of the Society to an advertisement in the *Evening Star* of the M. A. Leese Optical Co. which made use of an article published in the newspapers by the Society through the Committee on Public Instruction. Dr. Randolph explained the circumstances and presented an opinion of counsel as to the proper course for the Society to pursue to protect itself.

The whole matter was referred to the Executive Committee.

The following new members were elected: *Active*, Clifton E. Young, George Washington University, 1910; John W. Warner, University and Bellevue Hospital, 1909; Milton Hahn. *Associate*, Ralph M. Le Comte, of Washington, D. C.

The Chairman of the Committee of Censors reported that the application of Dr. Milton Hahn had been referred back to the committee at the stated meeting of May 1st for further investigation; that the members desiring this action had been given opportunity to make known to the committee any reasons for refusing recommendation of Dr. Hahn's application, but that none

had appeared; the committee therefore recommended that Dr. Hahn's name be put before the Society for election.

A card was read expressing the appreciation of Mrs. Street and family of the resolutions adopted by the Society in honor of the late Dr. D. B. Street.

A communication from the Los Angeles (Cal.) County Medical Association calling the attention of the Society to a system for collecting of delinquent fees for the benefit of its own members adopted by that Association, was referred to the Executive Committee.

On motion of Dr. Roy, all matter intended for publication by the Committee on Public Instruction in Medical Matters was ordered to be submitted for the approval of the Society before publication.

The Chair announced the death of Dr. John E. Toner and appointed the following committee to report memorial resolutions: Drs. Frank W. Braden, E. Y. Davidson and Walter A. Wells.

On motion of Dr. I. S. Stone, the Corresponding Secretary was instructed to express the sympathy of the Society to Gen. W. H. Forwood in the death of Mrs. Forwood.

Dr. Charles F. Craig, U. S. Army, read the essay for the evening, entitled: The clinical interpretation of the Wasserman test. Discussed by Drs. Hagner, H. J. Nichols, Simpson, Hazen, A. F. A. King, Williams, Hough and Craig.

Wednesday, November 13.—The President, Dr. Nichols, presided; about 65 members present.

Dr. A. A. Snyder, for the committee, reported resolutions of respect to the memory of the late Dr. John Kurtz, which were unanimously adopted. See. p. 52.

A letter from the Chairman of the Council on Health and Public Instruction of the A. M. A., requesting the nomination of a member of this Society for membership in the Council, was referred to the Executive Committee.

The Chair announced the death of Dr. Robert Fletcher and appointed Drs. A. F. A. King, Yarrow and Garrison a committee on memorial.

Dr. Williams read the paper for the evening. Title: The management of the psychasthenic child. Discussed by Drs. Hickling and Williams. See p. 31.

Wednesday, November 20.—The President, Dr. Nichols, presided; about 55 members present.

Dr. A. F. A. King, for the committee, reported a memorial and resolutions of respect in honor of the late Dr. Robert Fletcher, which were unanimously adopted. See p. 49.

Dr. Braden, from the committee, reported resolutions of respect to the memory of the late Dr. John E. Toner, which were unanimously adopted. See p. 53.

A letter from the Interior Department, relative to an investigation of the waters of Hot Springs, Arkansas, was referred to the Executive Committee.

Dr. Wells read the paper for the evening, entitled: Some general observations on the sense of hearing from a hygienic point of view. Discussed by Drs. McKimmie, Rench, Kober and Wells. See p. 44.

Dr. S. S. Adams reported a case of Nitrobenzol poisoning, together with reports of other cases in the literature. Discussed by Drs. J. D. Morgan, Hodge, Lochboehler, Kober and Adams.

Wednesday, November 27.—The President, Dr. Nichols, presided; about 80 members present.

Dr. S. S. Adams, for the Milk Committee, reported that a report had been received from one of the sub-committees, that other sub-committees had promised reports in the near future and that it was hoped that a report from the whole committee might soon be prepared and presented.

Dr. W. A. Jack, for a committee from the Washington Medical and Surgical Society, offered resolutions favoring the equipment of the Health Department Laboratory for making the biological test for syphilis, committing the Society to an endorsement of the project and instructing the Legislative Committee to advocate the inclusion of this provision in the District appropriation bill before the proper committees of Congress. Under the by-laws the resolutions were laid on the table for consideration after due notice to all the members.

Dr. Erwin F. Smith, of U. S. Department of Agriculture, addressed the Society upon Plant tumors and their relation to the cancer problem. The address was illustrated by lantern slides and specimens. Discussed by Drs. Kinyoun, W. P. Carr, A. F. A. King, Jack, G. W. Cook and Smith. A unanimous vote of thanks was given Dr. Smith for his address. See p. 22.

Wednesday, December 4.—The President, Dr. Nichols, presided; about 120 members present.

The Treasurer reported for November: receipts, $227.58; disbursements, $126.81.

An appropriatson of $415.89 was made to defray the expenses of the Corresponding Secretary; $141.71 for publication of the ANNALS for November; $2 for stationery for the Committee on Publication, and $15 for the expenses of the Secretary of the Executive Committee.

Dr. Folkmar, for the Committee on Public Instruction, presented for the approval of the Society an article intended for publication in the newspapers, and asked that it be read. The paper was referred to the Executive Committee.

Dr. Lemon, Secretary of the Executive Committee, read a report and the following recommendations:

(*a*) That the President nominate a member of the Society to represent the District of Columbia on the National Legislative Committee of the American Medical Association.

(*b*) That an appropriation of $50 be made to carry on the program of the Committee on Public Instruction in Medical Matters, and that the plans of the committee, as set forth in detail in the report, be approved.

The report was adopted and the recommendations approved.

The Chair designated Dr. John D. Thomas to represent the Society as the member of the Legislative Committee of the A. M. A.

The following were elected officers of the Society for the year 1913:

President, W. P. Carr.
First Vice President, J. W. Chappell.
Second Vice President, E. L. Morgan.
Recording Secretary, H. C. Macatee.
Corresponding Secretary, T. C. Smith.
Treasurer, C. W. Franzoni.

Members of Executive Committee to serve three years, J. B. Nichols, L. H. Reichelderfer, A. L. Hunt.

Dr. Cook, for the Executive Committee, reported that the paper from the Committee on Public Instruction, referred to the Executive Committee earlier in the meeting, was approved by the Committee, and its publication was recommended. This report was adopted and the recommendation approved by vote.

The Chair announced the death of Dr. John E. Brackett, and appointed Drs. D. S. Lamb, Balloch and Jenner a committee to prepare memorial resolutions.

Wednesday, December 11.—The President, Dr. Nichols, presided; about 100 members present.

Dr. W. P. Carr was nominated to represent the Society as one of the vice presidents of the Washington Academy of Sciences.

Dr. Balloch, for the committee, presented a biographical sketch and resolutions in memory of the late Dr. John E. Brackett, which were unanimously adopted. See p. 51.

Dr. Tom A. Williams, for the Committee on Public Instruction, presented a number of articles, intended for publication, for the approval of the Society.

Dr. G. Wythe Cook moved that the articles and the disposition of them be referred to the Committee on Public Instruction. The committee had been authorized and appointed by the Society, certain duties had been delegated to it, the approval of the Society had been given the plan of work proposed by the committee, of which the publication of these articles was a part, the personnel of the committee was excellent, and it was proper that the committee should be given the confidence of the Society.

Dr. Roy spoke in opposition to the publication of the articles in question, and to this plan of publicity in general, and moved that the matter be laid on the table. Carried.

The Chair announced the death of Dr. Albert E. Johnson, and appointed a memorial committee consisting of Drs. Franzoni, Ober and Luce.

Dr. Nichols, the retiring President of the Society, made an address on Medical Sectarianism. See p. 1.

The thanks of the Society were tendered him and it was ordered that the address be sent to the *Journal A. M. A.* for publication.

The thanks of the Society were also given to Dr. Nichols for his faithful, efficient and constructive administration of the affairs of the Society during the year.

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W. W. Wilkinson, M. D., ... The Rochambeau.

Editorial.

History of the Medical Socety of the District of Columbia.—This book should be in the hands of every member of the Medical Society. The price is only $1.00, with 25 cents added if delivered in this city or sent by mail. Address Dr. C. W. Franzoni, 605 I Street, N. W. The books are in the custody of Dr. D. S. Lamb, at the Army Medical Museum.

THE OTHER MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

Medical and Surgical Society of the District of Columbia.—President, H. P. Parker; Vice President, D. P. Hickling; Secretary and Treasurer, L. Eliot; Recording Secretary, L. C. Ecker; Executive Council, A. R. Shands, O. A. M. McKimmie, L. Eliot, E. P. Copeland and L. H. Reichelderfer. The program for the season is as follows:

Date.	*Place of Meeting.*	*Case History.*	*Essay.*
Feb. 6, 1913	Dr. McKimmie	Dr. Gwynn	Dr. Reichelderfer.
Mar. 6	" J. D. Morgan	" Hickling	" Shands.
Apr. 3	" Nevitt	" Ecker	" Walsh.
May 1	" Parker	" Sowers	" Atkinson.

THE WOMEN'S MEDICAL SOCIETY of the District of Columbia.—President, Mary Parsons; Vice President, Ida J. Heiberger; Recording Secretary and Treasurer, Ada R. Thomas; Corresponding Secretary, L. Tayler-Jones.

ON SUNDAY AFTERNOON, NOVEMBER 17, Dr. Winfield S. Hall, of the Northwestern University Medical School, gave a special talk on the teaching of sex hygiene to the Woman's Medical Society of the District of Columbia, at the home of the president, Dr. Mary Parsons. The guests of the occasion were Mrs. Edith Kingman Kern and Mrs. Rhodes, of the School Board, and a number of the leading women educators of the city. After the address there was an informal conference as to how the teachers and physicians could best coöperate in the development of the plans suggested by Dr. Hall. The result was a much better understanding between the two professions from the free exchange of opinions and a number of requests from the supervisors for lectures.

GALEN SOCIETY of the District of Columbia, 1912–1913; R. Lee Spire, President; Wm. H. Littlepage, Secretary-Treasurer.

1913.	*Place of Meeting.*	*Essayist.*
Jan. 20.	C. S. White and E. W. Titus, 911 16th Street.	Lewis H. Taylor: The use of vaccines and sera in surgery.
Feb. 17.	Charles Wheatley and W. H. Littlepage, University Club.	Charles S. White: Present status of bone surgery.
Mar. 17.	L. H. Reichelderfer, 1721 Conn. Ave.	Harry A. Ong: The treatment of cerebrospinal meningitis.
Apr. 21.	W. D. Tewkesbury, 4200 Ga. Av.	Charles Wheatley: Rheumatism in children.
May 19.	Joseph B. Bogan, 606 Mass. Ave.	David W. Tastet: Infant feeding.
Oct. 20.	David W. Tastet, 2827 11th St.	Election of officers: Miscellaneous business.

MEDICAL HISTORY CLUB of Washington, D. C., 1912–1913. Officers: President, G. Wythe Cook; Vice President, W. W. Wilkinson; Secretary, H. W. Lawson, 1117 Vermont Avenue. Executive Committee: I. S. Stone, F. H. Garrison, B. M. Randolph and the officers. Members: Truman Abbe, Frank Baker, W. C. Borden, G. Wythe Cook, J. A. Foote, F. H. Garrison, Howard Hume, H. W. Lawson, G. Brown Miller, J. D. Morgan, J. B. Nichols, B. M. Randolph, C. W. Richardson, Philip S. Roy, Sterling Ruffin, I. S. Stone, Joseph Wall, W. W. Wilkinson.

Meetings :

Date.	*Essayist.*	*Host.*
Jan. 25.	Dr. Nichols, History of dietetics..	Dr. Borden, 1801, California St.
Feb. 22.	Dr. Baker, A Paris faculty and French medicine in the 17th century.	...Dr. Randolph, 2010 R Street.
Mar. 29.	Dr. Morgan, Sir Thomas Browne..	Dr. Foote, 1732 Twentieth Street.
Apr. 23.	Dr. Cook, History of medical ethics.	.....D. C. Medical Society, 1325 H St.

Georgetown Clinical Society; twenty active members limited to graduates of the Medical Department of Georgetown University. Meets at the University Club on the second Tuesday of the month. J. Russell Verbrycke, Jr., President; John Foote, Vice President; Ralph LeComte, Secretary-Treasurer.

Medical Society of Georgetown University has a membership of 97 active members and meets on the second Saturday of the month at the Medical School. Officers: Wm. C. Gwynn, President; Geo. Wood, First Vice President; Ralph Hamilton, Recording Secretary; J. Russell Verbrycke, Jr., Corresponding Secretary.

The Hippocrates Society, membership limited to 25, with voluntary retired members after 10 years, meets on the second Thursday of the month. Officers for the year are L. M. Hynson, President; Wm. Earl Clark, Vice President; J. Russell Verbrycke, Jr., Secretary-Treasurer.

Date.	*Place.*	*Essayist.*
Jan. 9, 1913	Dr. Copeland, The Rockingham	Dr. White.
Jan. 23, 1913	Annual Dinner	
Feb. 13, 1913	Dr. Mason, The Portner	Dr. Snowden.
Mar. 13, 1913	Dr. Davis, 1355 Harvard	Dr. Mallory.
Apr. 10, 1913	Dr. White, 911 16th	Dr. Clark.
May 10, 1913	Dr. Hynson, 1335 N Street	President's Address.

Society of Ophthalmologists and Otologists of Washington.—R. S. Lamb, President; J. J. Richardson, Vice President; A. B. Bennett, Jr., Secretary-Treasurer. Meets on the third Friday in each month from October to May, inclusive.

Clinical Society of Washington.—Composed of 25 active members besides retired members. Officers: C. M. Hammett, President; T. A. Groover, Vice President; W. E. Clark, Secretary-Treasurer; L. A. Johnson and J. D. Thomas, Censors.

Clinico-Pathological Society.—Active membership limited to 25. Inactive membership: those who have withdrawn from active membership for 15 years. A limited honorary membership of distinguished medical men. Meets on first and third Tuesdays from October to May, inclusive. Officers: W. G. Morgan, President; Sothoron Key and E. E. Morse, Vice Presidents; B. M. Randolph, Secretary and Treasurer.

THE FREEDMEN'S HOSPITAL MEDICAL SOCIETY meets on the third Tuesday of each month from October to May, inclusive. Its membership is composed of physicians connected with the Staff of the Hospital and the Medical Faculty of Howard Medical School. The present officers are D. S. Lamb, President; A. M. Curtis, Vice President; C. A. Allen, Secretary-Treasurer; Committee on Program, E. A. Balloch, S. L. Carson and H. H. Hazen. The program at the last meeting, Nov. 19, consisted of: a paper on Pyelography, by H. A. Fowler; Urticaria associated with malaria, by C. C. Lathers; Relaxation of the sacro-iliac joint, by C. A. Allen.

THERAPEUTIC SOCIETY of the District of Columbia.—Meets at the G. W. School of Pharmacy, 808 I Street, N. W., on the first Saturday in each month. L. H. Taylor, President; S. R. Karpeles, Secretary.

THE SECRETARIES of the other Medical Societies of this District are reminded that the ANNALS will publish the schedules of their meetings.

NEW AND NONOFFICIAL REMEDIES. Price, cloth, $0.50; paper, $0.25; pp., 298. Chicago: AMERICAN MEDICAL ASSOCIATION, 1912.—This book contains descriptions and a statement of the actions and uses of all articles which have been examined and accepted by the Council on Pharmacy and Chemistry prior to Jan. 1, 1913. The work of the Council during its seven years of existence and the reports of the Propaganda Department of *The Journal A. M. A.* have convinced the physician that in the prescribing of proprietary remedies he must be careful in his selection of those which he directs for his patients. Nowhere else can the physician or the pharmacist turn for reliable, unbiased information concerning the new remedies. This book enables a physician to make such selection and the careful pharmacist to know the character of the remedies he dispenses.

MEMBERS OF THE SOCIETY who favor the Owen bill, and it is to be supposed that all the members do favor it, would do well to say as much to the members of the Senate and House of Representatives whom they personally know.

THE NINTH INTERNATIONAL CONGRESS OF ZOÖLOGY will meet at Monaco, March 25 to 30, 1913, under the Presidency of H. S. H. Prince Albert 1st. The Secretary is Prof. Joubin, Institut Oceanographique, 195 Rue Saint-Jacques, Paris.

THE WASHINGTON MEDICAL ANNALS.—Back numbers.—Members of the Society who have back numbers of the ANNALS, and do not intend to preserve them, are requested to send them to the Chairman of the Publication Committee. Requests for

such numbers are frequently received. Address Dr. D. S. Lamb, Army Medical Museum. Dr. E. L. Morgan is thanked for his interest in this matter.

Dr. C. L. G. Anderson has written a book, Old Panama and Castilla del Oro, covering the discovery, etc., of Panama and nearby territories; with maps and rare illustrations. The table of contents is quite attractive. The price is $5.00, delivered; and the book can be obtained from Dr. Anderson at 918 18th Street, N. W., this city.

Dr. Wm. P. Young, formerly a member of this Society, died Dec. 9, 1912, at his residence, 1312 R. I. Avenue, in his 79th year. A biographical sketch will be found on page 260 of the History of the Medical Society.

"The Visit by a party of German physicians to the recent International Congress on Hygiene and Demography has proven that a well-managed travel-study party of physicians can make a trip through a foreign country in a far more pleasant and profitable manner, and at less expense, than can be done by traveling alone. Clinics can be arranged in advance, lectures prepared and visits made to the best hospitals and health resorts, with the assurance of a hearty welcome from the leading medical men of the localities visited. For those unable to speak the languages of the countries on the Continent this disadvantage is reduced to a minimum, and the benefits of the trip correspondingly increased by traveling with such a party.

"The coming International Medical Congress, London, Aug. 6–12, 1913, gives a splendid opportunity for organizing an American tour of this sort and plans are now ready for a Physicians' Travel-Study Tour, leaving New York July 3d for the most important capitals and health resorts on the European Continent: Paris, Munich, Carlsbad, Marienbad, Dresden, Berlin, Nauheim, Wiesbaden, Cologne, Brussels, The Hague, Amsterdam, etc., ending with the week of the Congress in London.

"The plan of this tour has been seen and endorsed by Drs. A. Jacobi, T. C. Janeway, Ch. G. Kerley, O. G. T. Kiliani, L. R. Williams, Wisner R. Townsend and others. Physicians interested in such a trip should write for further and more detailed information to Richard Kovacs, M. D., 236 East 69th Street, N. Y. City."

The American Surgical Association has appointed a committee consisting of Drs. Wm. L. Estes, South Bethlehem, Pa.; Thomas W. Huntington, San Francisco, California; John B. Walker, New York City; Edward Martin, Philadelphia, and John B. Roberts, Chairman, 313 S. 17th Street, Philadelphia, to report on the Operative and non-operative of closed and open

fractures of the long bones and the value of radiography in the study of these injuries. Surgeons who have published papers relating to this subject within the last ten years will confer a favor by sending two reprints to the chairman of the committee. If no reprints are available the titles and places of their publication are desired. John B. Roberts, Chairman, 313 S. 17th Street, Philadelphia.

THE FOURTH INTERNATIONAL CONGRESS OF PHYSIOTHERAPY will be held in Berlin March 26 to 30, 1913, under the protection of Prince August Wilhelm of Prussia. The work of the Congress is divided into Hydrotherapy, Thallassotherapy, Balneotherapy, Climatotherapy, Electrotherapy, Radiotherapy, Kinesitherapy and Diathetics. During the Congress an exhibition will take place. American physicians intending to attend the Congress or desiring to contribute papers should communicate promptly with the chairman of the American committee, Dr. G. Betton Massey, 903 Professional Building, Philadelphia, Pa.

CONFERENCE OF STATE SECRETARIES.—A copy of this pamphlet has been received. It relates to the meeting of the State Secretaries, held in Chicago last June, to consider the matter of Uniform Regulation of Membership. The pamphlet contains the recommendations of the Conference.

REVIEWS.

THE WASSERMANN REACTION. JOHN W. MARCHILDON, B. S., M. D., St. Louis. C. V. MOSBY CO. Pages, 98. 1 Plate.—The author states that it is his purpose in this book "to give the reader complete information that will enable him to get the material and to make the Wassermann reaction, provided he has a certain amount of laboratory training and skill." Unfortunately, the author has not been able in the small space of the book to give complete information, and much that he has given is inaccurate, and the text shows a lack of knowledge of some of the most important papers in the literature. There also appears to have been careless proof-reading and typographical errors are not infrequent. This book is one of a number that have appeared, apparently intended to popularize the Wassermann reaction among physicians having a little laboratory training, and all such books should be condemned, for anyone who has had an extensive experience with this diagnostic test knows that it is one of the most difficult to perform and to interpret of our laboratory methods of diagnosis. A vast amount of harm is being done continually by physicians who are doing the Wassermann test without having had any training in serological work, and who have been encouraged to attempt this test by just the kind of book under review. No

one should attempt to do Wassermann tests who has not had several weeks or even months of training with an acknowledged authority upon this subject, and no book, however detailed or excellent in the treatment of the subject, can fit a man for this work, who has had no previous experience in serology. The reviewer cannot recommend this book to the profession.—C. F. CRAIG.

SKIN-GRAFTING. By LEONARD FREEMAN, M. D.; cloth; price, $1.50; pp., 139; with illustrations. St. Louis: C. V. MOSBY CO., 1912.—This publication is one of a class which is becoming deservedly popular, wherein one subject only is thoroughly discussed. In this monograph, by a well-known surgeon of Denver, skin-grafting in all its phases is exhaustively treated. The various methods of skin-transplantation are fully described, their relative merits compared and the technic of each minutely given and fully illustrated. The author rightly gives preference to the method of Thiersch as being the most universally applicable, the particular conditions for which other methods are better suited being indicated. The only drawback to this most excellent little work is its price, which seems excessive for so small a book.—
EDWARD A. BALLOCH.

RECENT PUBLICATIONS BY WASHINGTON PHYSICIANS.

J. F. Anderson and Joseph Goldberger (P. H. S.); Collected studies of typhus; Bull. 86, Hygienic Laboratory, Oct., 1912. Also Natural and induced immunity to typhus fever; *Jour. Infect. Dis.*, November.

J. F. Anderson and W. H. Frost (P. H. S.); Transmission of poliomyelitis by means of the stable fly (Stomoxys calcitrans); Reprint 99 from Public Health Reports.

H. E. Barnard; Cold storage in relation to food supply; *Amer. Jour. Pub. Hlth.*, November; abstracted in *Jour. A. M. A.*, Dec. 21, page 2283.

F. M. Barnes; Errors in clinical diagnosis of mental disorders associated with cerebral syphilis; *Archives of Diagnosis*, October.

W. M. Barton; Another conception of anaphylaxis; *Boston Med. and Surg. Jour.*, July 11, page 51. Also The ecchymotic skin reaction or acquired pseudohemophilia; *New York Med. Jour.*, Nov. 2.

E. M. Boyle; The negro and tuberculosis; *Jour. Nat. Med. Assn.*, Oct.–Dec., page 344.

H. A. Brown; Monthly incidents of certain diseases; *New York Med. Jour.*, Dec. 21.

J. H. Bryan; Case of myxofibroma of nasopharynx; *Annals Otol., Rhinol., Laryngol.*, September.

H. R. Carter (P. H. S.); Antimalarial measures for farm houses and plantations; Reprint 105, Public Health Reports.

T. A. Claytor; More common forms of cardiac irregularity with report of case of heart block; *Amer. Jour. Med. Sci.*, Nov.

L. E. Cofer; Medical examination of arriving aliens; Bull. Amer. Acad. Med., December.

C. L. Cole (U. S. A.); Early operation for perforation in typhoid fever; *Jour. A. M. A.*, Jan. 11, page 122.

C. R. Dufour; Tumor of brain involving ocular muscles; *Va. Med. Semi-Mo.*, January 10, page 489.

F. H. Garrison; Dr. Robert Fletcher, an appreciation; *Jour. A. M. A.*, Nov. 23, page 1907.

S. R. Karpeles; Irritation from iodin and mercury on the skin; *Jour. A. M. A.*, Dec. 21, page 2254.

H. H. Kerr; Volvulus of stomach; *Annals of Surgery*, November; abstracted in *Jour. A. M. A.*, Nov. 30, page 2001.

J. W. Kerr (P. H. S.); Procedure in quarantine practice; *Jour. A. M. A.*, Dec. 7, page 2026.

J. W. Kerr and A. A. Moll (P. H. S.); Common drinking cup and roller towels; *Public Health Bull.*, 57, August.

H. W. Lawson; Aneurysm of uterine artery; *Amer. Jour. Obstet.*, etc., November.

L. L. Lumsden (P. H. S.); Outbreak of gastroenteritis and typhoid fever due to drinking water on excursion steamer; Reprint 104 from Public Health Reports, 1912.

M. M. B. Lyon; Cesarean section from point of view of patient; *Jour. A. M. A.*, Dec. 14, page 2174.

A. J. McLaughlin (P. H. S.); Prevention of water-borne disease in lake and river traffic; *Boston Med. and Surg. Jour.*, Dec. 12; abstracted in *Jour. A. M. A.*, January 4, page 82.

W. J. Manning; A method of continuous sterilization of instruments, together with aseptic hypodermic medication; *Jour. A. M. A.*, June 22, page 1939; abstracted in *Vermont Med. Mo.*, Dec. 15, page 311.

W. G. Morgan; Indicanuria; *Amer. Jour. Med. Sci.*, December.

H. J. Nichols (U. S. A.) and W. H. Hough; Demonstration of spirochaeta pallida in the cerebrospinal fluid; *Jour. A. M. A.*, January 11, page 108.

M. E. Pennington; Hygienic and economic results of refrigeration in the conservation of poultry and eggs; *Amer. Jour. Public Health*, November.

J. A. F. Pfeiffer; Introductory histopathologic study of paraplexus in psychoses; *Amer. Jour. Insanity*, July.

B. M. Randolph; Sarcoma of left frontal lobe of brain, without definite symptoms until shortly before death; *Jour. A. M. A.*, January 4, page 30.

C. W. Richardson; Tonsillectomy, with consideration of its complications; WASHINGTON MEDICAL ANNALS, May, 1912, page 85; abstracted in *U. S. Naval Med. Bull.*, October, page 617.

G. H. Richardson; Use of tincture of iodin in treatment of blistered and abraded feet; *Jour. A. M. A.*, Dec. 7, page 2095.

W. C. Rucker (P. H. S.); Master key in sanitation; *Military Surgeon*, November. Also, Whooping cough, its nature and prevention; reprint 100 from Public Health Reports.

A. R. Shands; Treatment of fracture of shaft of femur; *Va. Med. Semi-Mo.*, Dec. 27, page 445.

C. W. Stiles and Arthur Hassall; Indexcatalog of medical and veterinary zoölogy; Cestoda and Castodaria; Hygienic Laboratory; Bull. 85, July, 1912.

I. S. Stone; Hypernephroma of kidney; *Surg. Gynec. and Obstet.*, December. Also Interposition operation for prolapse of uterus; *Amer. Jour. Obstet.*, November.

J. S. Wall; Postnatal causes of infant mortality; *Amer. Jour. Obstet.*, &c., December.

B. S. Warren; Open-air schools for the prevention and cure of tuberculosis among children; P. H. Bull., 58, October, 1912.

C. B. Wertenbaker (P. H. S.); Sanitary awakening of a nation; *Military Surgeon*, November.

C. S. White; The surgical treatment of retrocalcanean bursitis (Albert's disease); *Va. Med. Semi-Mo.*, January 10, page 487.

W. A. White and F. M. Barnes; Plan for indexing cases in hospitals for the insane; *Amer. Jour. Insanity*, July.

T. A. Williams; The psychic effects of accidents; *Mo. Cyclop. and Med. Bull.*, November, p. 650, and December, page 722. Also Errors in the diagnosis and treatment of arteriosclerotic antecedents; *Va. Med. Semi-Mo.*, Dec. 27, page 457. Cases of juvenile psychoasthenia illustrating successful treatment; *Amer. Jour. Med. Sci.*, December. Also The practical import of recent work in hysteria; *Jour. A. M. A.*, Dec. 21, page 2224. Also How to prevent nervousness in children; *West Va. Med. Jour.*, December, page 181.

W. H. Wilmer; Relations of the vascular system to certain ocular diseases; *Old Dom. Jour. Med. and Surg.*, December, page 279.

T. J. Wills; Pellagra; *Jour. Med. Assn., Georgia*, December.

PERSONAL NOTES.

Dr. J. B. Bogan was married, December 4, 1912, to Miss Edna Lillian Condon.

Drs. J. W. Bovée and W. P. Carr attended the meeting of the Southern Surgical and Gynecological Association, at Old Point Comfort, Va., Dec. 17 to 19, and took part in the discussions.

Drs. C. F. Craig (U. S. A.) and Joseph Goldberger (P. H. S.) attended the meeting of the Southern Medical Association, No-

vember 12 to 14, at Jacksonville, Fla., and took part in the discussion on Malaria.

Dr. M. H. Darnall (U. S. A.) has been relieved from duty in the Medical Reserve Corps.

Dr. P. C. Fauntleroy (U. S. A.) has been ordered to the Balkan seat of war.

Dr. Joseph Goldberger (P. H. S.) attended the meeting of the Kentucky State Medical Association at Louisville, Oct. 28 to 31, and took part in the discussion.

Dr. Harrington, a member of this Society, and Health Officer of Cumberland, Md., is said to have contracted smallpox from contact with one of a series of cases of the disease in that city; Dr. L. Eliot, of this city, went to Cumberland, as smallpox expert, to verify the diagnosis in suspected cases.

Dr. H. L. E. Johnson was reëlected Governor, and Dr. G. T. Vaughan Surgeon, of the District of Columbia Society of Colonial Wars, at the meeting Dec. 3, 1912.

Dr. L. A. LaGarde, U. S. A., has been detailed as a member of the Army Retiring Board.

Dr. H. P. Parker was married, November 22, to Miss Eleanor Cullom Ridgely, a granddaughter of Senator Cullom, at the home of her parents, Highland Terrace.

Dr. C. W. Richardson has the distinction of having been selected by the Congressional Investigating Committee to make the examination of Wm. Rockefeller to ascertain if he was able to appear as a witness before the committee.

Dr. J. J. Richardson presented President Taft to the physicians of the city, December 17th, at a reception at 1509 16th Street, N. W.

Dr. A. R. Shands has been elected one of the Councillors of of the Southern Medical Association.

Dr. A. C. Stanley (U. S. N.), retired, was married, December 3, to Miss Alice Willard Boyd, daughter of Dr. and Mrs. John Boyd (U. S. N.).

Dr. N. R. Sullivan (U. S. Navy) has been ordered to the Naval Medical School.

Dr. F. A. Winter (U. S. A.) has been ordered to duty at the Army Medical School.

At the meeting of the Medical Society of Virginia, at Norfolk, Oct. 22 to 25, Drs. W. P. Carr, A. B. Hooe, P. S. Roy, I. S. Stone and G. T. Vaughan attended and took part in the discussions.

The following Washingtonians are officers of the Amer. Assn. for the Advancement of Science: J. W. Fewkes, Vice President, Section of Anthropology; L. O. Howard, Permanent Secretary; W. J. Humphreys, Secretary of Council in Physics; R. T. Woodward, Treasurer; F. T. Hazard, Assistant to Permanent Secretary.

NAMES OF ACTIVE MEMBERS OF THE MEDICAL SOCIETY of the District of Columbia, arranged according to seniority of membership in the late Medical Society and Medical Association.

* Deceased. † Resigned.

1. Warwick Evans.
2. Joseph Ford Thompson.
3. A. F. A. King.
4. Thos. Croggon Smith.
5. Ralph Walsh.
6. Sam'l Wm. Bogan.
*7. Henry Alfred Robbins.
8. Adajah Behrend.
9. Dan'l Smith Lamb.
10. Valentine McNally.
11. Otto Magruder Muncaster.
12. Chas. Evelyn Hagner.
*13. Albert Eugene Johnson.
14. Geo. C. Samson.
15. George Lloyd Magruder.
16. James Littleton Suddarth.
17. Jas. Knox Polk Gleeson.
18. Joseph Taber Johnson.
19. Wm. John Armstrong.
20. Chas. Wm. Franzoni.
21. Francis M. Gunnell.
22. Zachariah Turner Sowers.
23. George Martin Kober.
24. Theodore Mead.
25. Franck Hyatt.
26. John Llewellin Eliot.
27. Frank Boot Loring.
28. Henry Crecy Yarrow.
*29. John Ely Brackett.
30. Henry Davidson Fry.
31. Wm. Francis Byrns.
32. Wm. E. Poulton.
33. Ernest August Sellhausen.
34. Joseph W. Little.
35. Geo. Nicholas Acker.
36. Stephen Olin Richey.
37. Geo. Wythe Cook.
38. Henderson Suter.
39. Thos. Eugene McArdle.
40. Sam'l Shugert Adams.
41. W. P. C. Hazen.
42. Harrison Crook.
43. Benj. Geo. Pool.
44. Henry L. E. Johnson.
45. Thos. Francis Mallan.
46. Danl. Kerfoot Shute.
47. Leon Leigh Friedrich.
48. John Hepburn Yarnall.
49. Raymond Thos. Holden.
*50. Josiah Robson Bromwell.
51. Geo. Clarke Ober.
52. Louis Kelly Beatty.
53. Thos. Victor Hammond.
54. R. A. Pyles.
55. Dan'l Percy Hickling.
56. Isador S. L. Bermann.
57. Millard Fillmore Thompson.
58. Louis Kolipinski.
59. Neil Ferguson Graham.
60. Chas. Read Collins.
61. Middleton Fuller Cuthbert.
62. Mary Almera Parsons.
63. Ernest Frothingham King.
64. John Wesley Bovée.
65. Benj. Franklin Madison.
66. Arthur Augustine Snyder.
67. Joseph Hammond Bryan.
68. Chas. Williamson Richardson.
69. James Dudley Morgan.
70. Francis Bessant Bishop.
71. Frank Tenney Chamberlin.
72. Philip Seddon Roy.
73. Dan'l Olin Leech.
74. Thos. Morris Murray.
75. Thos. Notley McLaughlin.
76. Edwin Lee Morgan.
77. Wm. Mercer Sprigg.
78. Geo. Henderson.
*79. Henry Buckmaster Deale.
80. Thos. C. S. Marshall.
81. Eugene Chas. Curtis Winter.
82. Chas. Roscoe Luce.
83. Wm. Henry Fox.
84. Wm. T. Gill.
85. Frederick Sohon.
86. James Clark McGuire.
87. John Francis Moran.
†88. Edmund Lee Tompkins.
89. Wm. Chas. Fowler.
90. Geo. Gideon Morris.
91. Francis Xavier Dooley.
92. Wm. Phillips Carr.
93. Clara Bliss Finley.
94. Edward Arthur Balloch.
95. Wm. J. Dillenback.
96. Wm. Kennedy Butler.
97. Gaius Marcus Brumbaugh.
98. Arthur Joseph Hall.
99. Chas. Kneller Koones.
100. Louis Mackall.
101. Wm. Holland Wilmer.
102. Robt. Maitland Ellyson.
103. Geo. John Lochboehler.
104. Geo. Robt. Lee Cole.
105. Wm. Sinclair Bowen.
106. Ida Johanna Heiberger.
*107. Dan'l Baen Street.
108. John Edgar Walsh.

109. Johnson Eliot.
110. Chas. W. Brown.
111. Francis Alphonse St. Clair.
112. James Foster Scott.
113. Arthur Carlos Merriam.
114. John Thos. Kelley, Jr.
115. Elmer Hezekiah Sothoron.
116. Amelia Erbach.
117. Thos. Norris Vincent.
118. Benj. M. Beall.
119. Steuart Brown Muncaster.
120. Isaac Scott Stone.
121. Robt. W. Baker.
122. Charles Granville Stone.
123. Allen Walker.
124. James Henry Morgan Barber.
125. Floyd Vernon Brooks.
126. John Van Renssalaer.
127. Geo. C. Clark.
128. Wm. Creighton Woodward.
129. Mayne Marshall Pile.
130. Geo. Nelson Perry.
131. Jefferson Davis Bradfield.
132. Joshua Lambert Dulaney.
133. Clarence Ruter Dufour.
134. John Watson Shaw.
135. Wade Hampton Atkinson.
*136. John Edmund Toner.
137. John Wm. Chappell.
138. John Henry McCormick.
139. Oscar Addison M. MacKimmie.
140. John Henry Junghans.
141. Frank Leech.
142. John Albertson Stoutenburgh.
143. James Ramsay Nevitt.
144. Chas. Massey Hammett.
145. Wm. Francis Walter.
146. Larkin White Glazebrook.
147. Alfred Vandiver Parsons.
148. Oscar Henry Coumbe.
149. James Stuart.
150. Wm. Littleton Robins.
*151. John Kurtz.
152. John Ryder Wellington.
153. Henry Joseph Crosson.
154. Sam'l Evans Watkins.
155. Louis Alward Johnson.
156. Sam'l Edwin Lewis.
157. Oliver A. T. Swain.
158. Hobart Southworth Dye.
159. Horace Morgan Deeble.
160. John Thos. Cole.
161. Emory Wm. Reisinger.
162. Sterling Ruffin.
163. Louisa Miller Blake.
164. Duff Green Lewis.
165. Henry Theodore Harding.
166. Aurelius Rives Shands.
167. Edwin Emery Morse.
168. Wilfred Mason Barton.
169. Francis Patterson Morgan.
*170. Melchior B. Strickler.
171. Frank Palmer Vale.
172. George Burton Heinecke.
173. Sofie Amalie Nordhoff Jung.
174. Chas. Clagett Marbury.
175. Albert Rhett Stuart.
176. Chas. M. Emmons.
177. Thos. Ash Claytor.
178. Lewis Junius Battle.
179. Noble Price Barnes.
180. Ada Rebecca Thomas.
181. Frederick Ogle Roman.
182. Randolph Bryan Carmichael.
†183. Wm. Peyton Tucker.
184. Robt. Fry Sillers.
185. James Julius Richardson.
186. Albert Livingston Stavely.
187. Francis H. Miner.
188. Adeline E. M. Portman.
189. John Hitz Metzerott.
190. Frederick Francis Repetti.
191. Jesse Shoup.
192. John Crayke Simpson.
193. Virgil B. Jackson.
194. John Daniel Thomas.
195. Phebe Russell Norris.
196. Edward Mason Parker.
197. Walter Augustine Wells.
198. Geo. Wm. Wood.
199. Francis Randall Hagner.
200. Clarence Arlington Weaver.
201. Susan Johnson Squire.
202. Edwin Marble Hasbrouck.
203. Anthony Moreland Ray.
204. Linnaeus Sam'l Savage.
205. Robt. French Mason.
206. Hugh Clarence Duffey.
207. Wm. Lincoln Masterson.
208. Chas. Volney Petteys.
209. Edward Ferguson Pickford.
210. Edward Martin Schaeffer.
211. Thos. Miller.
212. Hubbard Gillette.
213. Robt. L. Lynch.
214. Frank W. Braden.
215. Franz August Richard Jung.
216. Francis Anthony Mazzei.
217. Edward F. Cummiskey.
218. James Richard Tubman.
*219. Homer Sanford Medford.
220. Monte Griffith.
221. Maurice Erwin Miller.
222. Abraham Barnes Hooe.
223. Albert Lynch Lawrence.
224. Wm. Sawyer Newell.
225. Edwin Bernard Behrend.
226. Michael D'Arcy Magee.
227. Walter C. Murphy.
228. Archie Ward Boswell.

229. Jesse Houck Ramsburgh.
230. Joseph Milton Heller.
231. Edmund Barry.
232. John Benjamin Nichols.
233. Joseph Stiles Wall.
234. DeWitt Clinton Chadwick.
235. Isabel Haslup Lamb.
236. Grafton D. P. Bailey.
237. Wm. Thompson Burch.
238. James Wm. Hart.
239. Jesse Newman Reeve.
240. Wm. Gerry Morgan.
241. Bernard Lauriston Hardin.
242. L. Fleet Luckett.
243. Wilson Prestman Malone.
244. Chas. Emory Ferguson.
*245. Camillo H. Machinek.
246. Thos. Dowling.
247. Wallace Neff.
248. Lewis Albert Walker, Jr.
249. Wm. E. Whitson.
250. Thomas Allen Groover.
251. Robt. Scott Lamb.
252. Carl Schurz Keyser.
253. Paul E. McDonald.
254. Frederick H. Morhart.
255. J. Lee Adams.
256. Walter Ashby Frankland.
257. Chas. Stanley White.
258. Harry Hurtt.
259. Wm. F. Wagner.
260. Henry Alexander Polkinhorn.
261. Aubrey Horatio Staples.
262. Dan'l Webster Prentiss.
263. Geo. Walter Warren.
264. S. Clifford Cox.
265. Wm. Clarence Gwynn.
266. Amelia Frances Foye.
267. W. Given Suter.
268. Hanson Thos. Asbury Lemon.
269. Geo. Boaz Corey.
*270. Henry Johns Rhett.
271. Norman Richards Jenner.
272. Thos. Best Kramer.
273. Howard Fisher.
274. Harry A. Sellhausen.
275. Sothoron Key.
276. John Paul Gunion.
277. Luther Halsey Reichelderfer.
278. A. Depue Butz.
279. Wm. Raymond Moulden.
280. John Lewis Riggles.
281. Frank Eugene Gibson.
282. Edgar Dorman Thompson.
283. Wm. Alexander Jack, Jr.
284. Wm. Julius R. Thönssen.
285. Ferdinand Claiborne Walsh.
286. Thos. Sim Lee.
287. R. R. Farquhar.
288. Mary Louise Strobel.
289. Geo. Kaspar Baier.
290. Wm. Pinkney Reeves.
291. Henry Marshall Dixon.
292. Reginald Rexford Walker.
293. John Alphonso O'Donoghue.
294. Edgar P. Copeland.
295. Montgomery Hunter.
296. Dan'l Dominick Mulcahy.
297. Welton C. Williams.
298. Elijah Lumbia Mason.
299. Thos. Sanford D. Grasty.
300. Walter Hibbard Merrill.
301. Eugene Lyman LeMerle.
302. Robt. Somervell Beale.
303. Henry Cook Macatee.
304. Sam'l H. Greene, Jr.
305. Edward Elliott Richardson.
306. Albert Joseph Carrico.
307. Loren Bascom Taber Johnson.
308. Frank Lee Biscoe.
309. Murray Galt Motter.
310. Howard Wilson Barker.
311. Edward Grant Seibert.
312. Chas. Loftus Grant Anderson.
313. Gideon Brown Miller.
314. Neil Duncan Graham.
315. Benj. Horace Smart.
316. James Allen Watson.
317. Adolphus B. Bennett, Jr.
318. Lewis S. Greene.
319. Geo. Reuben Sorrell.
320. Joseph Francis McKaig.
321. Simon Rufus Karpeles.
322. John Sheridan Arnold.
323. Oscar Wilkinson.
324. Truman Abbe.
325. Francis Stanislaus Machen.
326. Edgar Wm. Watkins.
327. James H. Stone.
328. Wm. Bernard Johnston.
329. Gustavus Werber.
330. Thos. June Kemp.
331. John Joseph Repetti.
332. Taylor Boyd Dixon.
333. John W. Stewart.
334. Harry Marx Kaufman.
335. Arthur Munson MacNamee.
336. Mary Holmes.
337. Chas. Middleton Beall.
338. Joseph Clarence Tappan.
339. Thos. J. Rossiter.
340. James Cartwright Wynkoop.
341. Henry Holliday Stromberger.
342. Joseph Decatur Rogers.
343. Robt. John McAdory.
344. Geo. H. Heitmuller.
345. James Geo. McKay.
346. James Farnandis Mitchell.
347. Louise Tayler-Jones.
348. Robt. Cathcart Ransdell.
349. Harry Hampton Donnally.
350. Alfred Richards.

351. John Potts Fillebrown.
352. Arthur Herbert Kimball.
353. Anna Bartsch-Dunne.
354. Harry Atwood Fowler.
355. Henry Randall Elliott, Jr.
356. Edward Hiram Reede.
357. Peter Henry Steltz, Jr.
358. Morris Korshet.
359. Newton E. Webb.
360. Wilbur H. R. Brandenburg.
361. Carl Lawrence Davis.
362. Buckner Magill Randolph.
363. Lewis Harvie Taylor.
364. Henry Wood Tobias.
365. John Bradford Briggs, Jr.
366. Dwight Gordon Smith.
367. Joseph Ernest Mitchell.
368. Wm. Fowke Ravenel Phillips.
369. Karl Coates Corley.
370. Ralph Alexander Hamilton.
371. James Widgery Marshall.
372. Edwin Clarence Hunter.
373. Thos. Glenn Jones.
374. Lawrence Maxwell Hynson.
375. Wm. Gage Erving.
376. Harry Reid Hummer.
377. Francis Alphonse Schneider.
378. Frank Fremont-Smith.
379. Wm. Hite Hough.
380. Benj. Rush Logie.
381. Francis Edward Harrington.
382. James Augustin Flynn.
383. James F. Douglas.
384. Robt. Conrad Ruedy.
385. John Henry Digges.
386. John Walter Hodges.
387. Edgar Snowden.
388. Joseph Joshua Mundell.
389. Ernest Pendleton Magruder.
390. John P. Dunnigan.
391. Emma Lootz Erving.
392. Louis Chas. Lehr.
393. Carlisle Patterson Knight.
394. Harry M. Price.
395. Herbert Edward Martyn.
396. John Dunlop.
397. Richard Mitchell Little.
398. Roy Delaplaine Adams.
399. Seneca Bray Bain.
400. Homer G. Fuller.
401. Thos. Francis Lowe.
402. Geo. Tully Vaughan.
403. J. Lawn Thompson.
404. Geo. Washington Boyd.
405. Sam'l Logan Owens.
406. Geo. Mendenhall Ruffin.
407. Frederick Yates.
408. Willard Parker Greene.
409. Edward Young Davidson.
410. Robt. Walter Frischkorn.
411. Harry Hyland Kerr.
412. Adam Kemble.
413. Wm. Beverly Mason.
414. Walter Watkins Wilkinson.
415. Chas. Wilbur Hyde.
416. Arthur LeRoy Hunt.
417. Chas. L. Waters.
418. Wm. Robt. Perkins.
419. Geo. H. Camp.
420. Guy Stark Saffold.
421. Aloysius W. Valentine.
422. Edward Homer Egbert.
423. Edward Warren Burch.
424. Milton Hickox Prosperi.
425. Chas. Louis Billard.
426. Josiah Hutton Holland.
427. Dan'l Thos. Birtwell.
428. Chas. Walker Allen.
429. Henry Pickering Parker.
430. Raymond Adams Fisher.
431. Wm. Glenn Young.
432. Wm. Houston Littlepage.
433. Joseph Alexander Murphy.
434. Virginius Dabney.
435. Richard Lloyd Cook.
436. Joseph J. Kaveney.
437. Prentiss Willson.
438. Wm. Earl Clark.
†439. Robt. A. Schoonover.
440. Elzora Butler Allen.
†441. Seth Eastman Moore.
442. Grant S. Barnhart.
443. Alfred C. Norcross.
444. James Franklin Hilton.
445. Wm. F. Hemler.
446. J. Breckinridge Bayne.
447. Edward J. Gunning.
448. John O. Skinner.
449. Wm. Whitney Christmas.
450. John Allan Talbott.
451. Wm. Otway Owen.
452. Emma Corey Starr Keith.
453. Dorsey Mahon McPherson.
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456. J. Russell Verbrycke, Jr.
457. Wm. C. Rives.
458. John Constas.
459. Howard Hume.
460. Robt. Young Sullivan.
461. Thos. Chas. Martin.
462. John James Wharton.
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464. Stanton Wren Howard.
465. Henry Churchill Cook.
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468. Huron Willis Lawson.
469. Mead Moore.
470. Richard F. Tobin.
471. Elwin C. Schneider.
472. Wm. Cabell Moore.

473. Lyman Frederick Kebler.
474. John Wesley Sutherin.
475. Hamilton K. Wright.
476. Wm. Henry Syme.
477. Edmund T. M. Franklin.
478. Richard Thos. West.
479. Robt. S. Trimble.
480. Sam'l Carl Henning.
481. Roy C. Heflebower.
482. Zadoc M. Brady.
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492. Julian May Cabell.
493. Mary O'Malley.
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496. Geo. J. Newgarden.
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525. J. Rozier Biggs.
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529. Henry I. Stout.
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532. Julian C. Blackistone.
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534. Thos. A. Poole.
535. Coursen B. Conklin.
536. T. D. Mudd.
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538. Eva Charlotte Reid.
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540. Philip R. Terry.
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ANOTHER HYPOTHESIS AS TO THE ORIGIN AND PREVENTION OF CANCER.*

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This paper contains no experiments or observations of my own. It is made up entirely of facts ascertained by others—facts so well known, however, as to constitute what may be called our present-day common knowledge with regard to malignant neoplasms. It is my purpose to consider the following questions:

First: Can a human spermatozoon conjugate with any other epithelium cell besides an ovum?

Second: Can it be possible that the conjugation of spermatozoa with somatic cells leads to the development of those useless, abortive pseudo-embryonic structures that are so strikingly characteristic of cancer?

Third: Are there any circumstances or conditions which promote this conjugation of spermatozoa with somatic cells by the avoidance of which, cancer (some forms of cancer) may in a measure be prevented?

The basis of the hypothesis we are to consider rests upon an affirmative reply to each of these questions.

Briefly stated, the hypothesis itself is as follows, viz: Somatic, *a*sexual cells, by repeated proliferations, become transformed into *sexual* reproductive cells, which, after the reduction of their chromosomes, by the discharge of their polar globules, become liable to conjugation with spermatozoa, in consequence of which the hybrid formation we call cancer begins its development.

In the language of another, it is now well understood, and universally admitted, "that the evolution of pathological new formations is but a modified repetition of normal evolution."[1] "Between the laws which govern the evolution in the two cases there is evidently no intrinsic difference—the normal is the type of the pathological."[1] Now, in the normal development of an embryo the fecundated ovum divides and subdivides into its segmentation spheres, and later on these differentiate into the various

* Read before the Medical Society January 29, 1913.

kinds of body cells, and still later these body cells, after repeated proliferations, and towards the end of pregnancy, produce a comparatively small number of *reproductive* cells, either female ones —ova, or male sperm cells—spermatozoa. Let us especially note that the differentiation of body cells into reproductive ones is a *late* performance: it only occurs after many successive proliferations of body-cells, generation after generation, have taken place. We need scarcely add that the reproductive cells, male and female, are designed to produce offspring, and thus perpetuate the race.

This very same series of events occurs in the life-history of the protozoa. These one-celled creatures multiply by *direct* division (*a*mitosis); they divide and subdivide many times, generation after generation, thus producing new individuals like themselves, until eventually a condition of so-called "senescence" approaches, when the power of any further subdivisions is about to cease, and which, if it really occurred, would mean extinction of the race. Now it is that some of the cells become differentiated into reproductive cells, male and female, by the conjugation of which a new generation of *a*sexual cells is produced, which repeat the numerous subdivisions and proliferations of their predecessors. This constitutes the well-known "*rejuvenescence*" of Maupas. But note that it is a *late* performance, and only occurs after many (several hundred usually) successive proliferations, generation after generation, have taken place.

Once again we observe this same life history in the *a*sexual somatic cells of which our own adult bodies are composed. They multiply by direct division, generation after generation, until, late in life, after many repeated proliferations, sexual cells, capable of conjugation, are produced. In fact, the "senescence" of our own tissue-cells is not determined by time, but by the number and rapidity of the successive proliferations they may have undergone. We know, further, that we can increase the rapidity of these successive proliferations, and thus hasten the appearance of reproductive cells, by any kind of continued "irritation"—whether mechanical, chemical or functional. And this is exactly what occurs in cancer, viz: by continued abnormal irritation of various kinds, abnormally rapid proliferations are brought about, which end in the production of sexual cells capable of conjugation with spermatozoa to produce malignant neoplasms.

It must be remembered that all *somatic* cells multiplying by mitosis divide their chromosomes so that the daughter-cells have exactly as many chromosomes as the parent.

But in 1883 Van Benedin discovered that conjugating *germ* cells contained only *one-half* the number of chromosomes characteristic of the somatic cells, and later it was demonstrated that this "*reduction of the chromosomes*" was a universal feature in the "maturation" of gamo-genetic germ cells—their preparation for sexual conjugation.

But is there any experimental proof that these things actually occur? There is. It has recently been shown, by the conjoint investigations of Farmer, Moore and Walker[2] that in cancer formations there always occur transformed somatic cells, having the reduced number of chromosomes characteristic of germ cells, which have undergone "maturation" and are thus prepared to receive the conjugating male element. They state that the series of cellular and nuclear changes are not confined to epitheliomata but recur in an essentially similar manner in other carcinomata and sarcomata. In malignant growths they have *never* failed to find these cells with reduced chromosomes, but in benign growths they have been wholly unable to find a single instance of cells in which a reduction in the number of chromosomes had taken place. The observations of these investigators are now constantly referred to in the literature.

At first sight we feel disposed to rebel against this admitted transformation of a somatic cell into a reproductive one. Yet, as our knowledge of biology advances we are constantly doing away with the older and imaginary *specific* distinctions between different tissues and cells; more and more are we led to realize that the differences between cells cannot be marked out with sharply drawn lines; between any two kinds there are always transitional forms.

Thus we find there is really no *specific* difference between an ovule and a somatic cell. Both had a similar origin; both arose from cleavage of the parent ovum. Quoting from E. B. Wilson, he says: "The distinction between germ cells and somatic cells is not absolute, but only relative."[3] And again: "The distinction between somatic and germ cells is a difference only in degree, not in kind."[3] Thus, then, we must *not* rebel against the admission—crude and surprising as it may at first appear—that a common mucous epithelium cell may become transformed into a sort of *quasi* ovum—at least into a reproductive cell capable of receiving a conjugating spermatic element. The whole trend of modern biology supports this view.

Ed. H. Nichols[4] remarks that the old parasitic theory of cancer was that a parasitic growth became engrafted on a sound individual, this growth having been produced by the conjugation of sexual cells in a way analogous to the conjugation of sexual cells which produces a normal individual.

While we shall refer to this theory again, later on, I will now only ask what cell is there in the human body that would be more likely to execute this function of conjugation than the spermatozoon? We can think of none.

Throughout the literature repeated references are made to this conjugation of cells in cancer resembling in a way normal conjugation, and almost universally the resultant malignant growth has been observed to consist of a pseudo embryonic structure;

but no one, so far as I am aware, has considered the spermatozoon as a contributive factor in the production of these abortive embryonic formations. There is at least one variety of cancer that has never been known to occur without the instrumentality of a spermatozoon, viz: deciduoma malignum, or chorion-epithelioma, since this is always the result of pregnancy. Perhaps, however, this instance does not afford our hypothesis any fairly logical support, for it may be said that without the aid of a spermatozoon no human being could exist and no growths of any kind occur. True; but while the spermatozoon is instrumental in producing normal human beings, we cannot deny that in the deciduoma malignum case, it is also an initial factor in the production of a disease that may destroy a woman's life in a few months, even though at present we do not completely understand the several transformations by which this disastrous result is brought about.

From what has now been said, and from what is to follow if the hypothesis be tenable, we might regard the spermatozoon as a sort of infecting microbe. As tubercular disease arises from tubercular infection, and diphtheria from diphtheritic infection, so we may regard cancer as the offspring of spermatic infection. But there is this important difference, viz: the spermatic microbe does *not*, like ordinary bacterial microörganisms, multiply by division to produce others like itself, but, having fecundated an epithelial cell, it disappears, and the resulting cancer growth is due to the repeated divisions of this fecundated cell, just as the growth of a fetus results from the divisions of a fecundated ovum. There is, however, a practical use in regarding what I have called spermatic infection as analogous to bacterial infection, viz: to prevent spermatic infection we must, in our daily lives, adopt a sort of *a*spermatic technique, somewhat akin to the *a*septic technique which secures against septic infection.

Let us next consider some of the properties of this infecting material. It is a phase of the discussion one might well wish we could avoid. It leads us to speak of things that are indelicate and repellant. In the pursuit of truth, however, in the investigation of disease we cannot always walk upon a drawing-room carpet, and when necessity requires we should not hesitate to step into mire.

It has been ascertained that a single seminal emission contains about 328,252,633 spermatozoa. This number is the mean of three enumerations made, respectively, by Lode, Benedict and Guelliott, as follows: [5]Lode, 226,257,900; [6]Benedict, 346,000,000; [7]Guelliott, 412,500,000.

The volume of an emission is about one dram (60 drops). One drop will therefore contain 5,470,877; and half a drop 2,735,438. Of this number, a single one, "which hardly weighs as much as the one-hundredth part of a single red blood corpuscle,"[8] would be

sufficient to evoke the beginning of a malignant growth that might attain a weight of several pounds, just as the fusion of a single spermatozoon with an ovum may lead to the development of a full-grown fetus.

It is well known that the human spermatozoon is remarkably tenacious of life. It will live several days in the testicles of a corpse; and also in the vagina, even though the acid vaginal secretion be less favorable for its preservation than the alkaline mucus of the uterine cavity. By the action of its caudal filament it can swim one inch (about 500 times its own length) in seven minutes. (If a man 6 feet tall could do this, he would swim over half a mile in that time.) It has been known to preserve its morphological outlines in dried sperm stains upon clothing, so as to be recognizable by the microscope, as long as ten, fifteen and, in one case, eighteen *years* after the sperm spot was deposited.[9] I do not mean that it is alive, or that it can be revived after this long time. It has, however, been known to resist drying and putrefaction[10]; and the recent (1909) experiments of Fleig demonstrate that after being kept at a low temperature, so that all motion has ceased, it can be completely revived and resume its undulatory movements, when treated with certain saline alkaline waters, after periods of five, six, and even eight days.[11]

Loeb[12] has caused the development of sea-urchin eggs by extract from *dead* sperm as well as from living sperm (under certain conditions), which suggests the *possibility*, at least, that dead human sperm may act upon somatic epithelium cells in a way to cause the development of malignant growths.

We must further note that the conjugating potency of the spermatozoon differs in different men. In some it has full power, in others it is only partially potent, in others impotent. To illustrate further this variation in the spermatic elements it has been conclusively demonstrated that normal human sperm contains a good many (about one in every 50,000) teratologic specimens, *i. e.*, specimens with two heads, with three heads; with one head and two tails; one head and three tails; two heads and two tails; two heads and three tails; cases with deformed heads, and others with two heads and tails joined together like Siamese twins.[13] It is not desired to infer that these teratologic "monsters" have any special influence on the production of cancer; I mention them only to accentuate that the sperm of different men may have different properties and different degrees of fecundating potency. Guyer, Wilson and Loeb have shown that in human beings there are always two kinds of spermatozoa, occurring in about equal numbers, some of which possess a so-called "sex chromosome" or "accessory chromosome," while others do not. If a spermatozoon without any sex chromosome gets into the egg it gives rise to a boy; if a spermatozoon with a sex chromosome

gets into the egg it will give rise to a girl ("Mechanistic Conception of Life," p. 19).

Thirty years ago C. Heitzmann[14] observed a sort of conjugation of spermatozoa with pus cells, by which he thought the spermatic elements underwent a real transformation into pus cells and were observed in all stages of this transformation. There is no very evident bearing of this observation upon the subject we are considering, except that it answers the question that spermatozoa can and do enter other cells besides ovules.

Farmer, Moore and Walker, to whose observations on the resemblances between the cells of malignant growths and those of normal reproductive tissue I have already referred, have more recently (1905) given an account of cases in which they found leucocytes, during the earlier stages of cancer, passing into (*i. e.* conjugating with) tissue cells, with the result that "mucous cells were directly converted into cells of a truly malignant type."[15]

It is perhaps presumptuous in me to question the findings and conclusions of these noted observers, yet I cannot help asking the question whether these supposed leucocytes may not really have been the heads of spermatozoa? Worse mistakes than this have occurred. Thus Max Schüller's large, yellow "cancer parasites" turned out to be cork cells which had got into the specimens[16]; and Scheuerlen's specific cancer baccillus was nothing but a potato baccillus, one of several kinds that grow readily on slices of potato.[17]

Moreover there is nothing about a leucocyte to indicate its masculinity or fecundating power. It has not reduced its chromosomes, while the spermatozoon in being transformed from a spermatocyte into a spermatid *has* done so. The leucocyte is a phagocyte, but the observers (Farmer, Moore and Walker) state explicitly that after its entrance into the epithelial cell *no* phagocytic action occurred. Another and later writer (1907), J. Jackson Clarke,[18] reminds us that Klebs reached the conclusion "that leucocytes present within the epithelial cells of cancer exert a spermatic property by which they fertilize the epithelial cells, so awakening within them renewed activity of proliferation, conferring on them, in fact, the properties of fertilized ovum cells." But Dr. Clarke himself disagrees with Klebs, and remarks: "there is *no evidence whatever* that leucocytes play any such part." May we not ask: Can the differences between these gentlemen be reconciled by attributing the fertilizing power to spermatic elements, instead of to leucocytes?

J. Bland-Sutton in his recent (1911) work[19] says: "the cause of cancer is most probably a micro-parasite which stimulates the normal epithelial cells of adult individuals to multiply and produce cancer in the same way that the male gamete, or spermatozoon, initiates reproductive changes in the female gamete, or ovum." I ask: What cell is there in the human body that would

be more likely to execute this fertilizing function than the spermatozoon? Certainly not the leucocyte.

Note again that every one of the advocates of this so-called "parasitic theory" of cancer, deplores that no such "microparasite" has yet been discovered. Williams[20] tells us that of the numerous researches undertaken during the last quarter of a century with a view to finding the microbe of cancer, *all* have proved abortive. "Where are now," he asks, "the specific cancer microbes of Rappin, Freire, Scheuerlen, Schill, Francke, Lampiazi-Rubino, Saranelli, Kubasoff and Doyen; of Pfeiffer, Thoma, Wickham, Sjöbring, Soudakewitch, Ruffer, Walker, Plimmer, Adamkiewicz, Korotneff, Jeurgens, Bose, Leyden and Schaudin, Schüler, Gaylord, Feinberg, Robertson and Wade; of Russell, Sanfelice, Niessen, Bra, Monsarrat, Leopold, O. Schmidt, etc.? One after another, the alleged discoveries of this recalcitrant organism have ended only in disappointment."

But this inability to find the microbe for which they were looking is strictly in accord with and contributes to sustain the hypothesis we are considering, for the spermatic microbe, which we maintain conjugates with an epithelial cell to produce the new pseudo-embryonic cancer cell, is lost in the act of conjugation—lost by fusing its nucleus with the nucleus of the epithelium cell, to form the *tertium quid* we call a cancer cell. As well might we search in a fetus for the spermatozoon which conjugated with an ovum to form the öosperm from which this fetus grew, as to search in a cancer for the spermatic microbe which conjugated with an epithelial cell to form the combination from which the cancer grew. Neither ever *will*, nor ever *can* be found; both disappeared in the act of conjugation.

Paracelsus deserves great credit for his remarkable statement that "in such a disease" (as cancer) "a man is himself and another; he has two bodies at one time, enclosed the one in the other, and yet he is one man."[21]

Paracelsus died (1541) more than a century before the spermatozoon was discovered by Leeuenhoek (1677), so that he could not realize, as we do, that the only *possible* way by which the second body could begin its evolution was by a fusion of a spermatozoon with a female epithelium, just as *all* human beings begin, whether they end in abortive malignant growths or in normal individuals like ourselves.

Once again, quoting Williams,[22] he says: "Pathologists, have, of course, long been familiar with the conception which ascribes the initiation of malignant growth to the conjugation of the cell of a cancer germ with some adjacent somatic cell, as described by Stroebe, Hansemann, Klebs and others; but it cannot be said that the doctrine thus advanced carried much conviction."

We are, however, compelled to differ with these observers by concluding that the imagined "adjacent somatic cell" with which

they supposed the "cancer germ" to conjugate was *not* a somatic cell, but a spermatozoon.

There is another aspect in which the "parasitic theory" of cancer may be considered, viz: the cancer mass has been regarded as a mass of individual parasites, for which, however, it has been impossible to account. The hypothesis we are now considering removes this difficulty. Thus: a normal embryo *in utero* is itself, essentially and in every particular, a *normal parasite*, in its proper place at the proper time, and will remain so until it become a new-born child. The cells resulting from the segmentation of an ovum, and their subsequent proliferations and differentiations, become integrated into a new and useful being composed of many millions of *normal* parasitic cells. But in the case of cancer the individual cells resulting from the divisions of a fecundated epithelium cell do *not* integrate into a normally organized individual, but remain an abortive assemblage of disunited, emancipated, independent individuals, each one becoming an *ab*normal parasitic cell, attempting to lead its own life at the expense of the host in which it has appeared at the *wrong* time and place. The so-called "mass of parasites," then, composing a cancer is a mass of cells produced by repeated division of a fecundated epithelial cell. According to our view there is no other "cancer parasite," excepting, of course, in that rather limited number of cancer cases in which, according to Cohnheim's view, bits of embryonic tissue became separated from their normal relations during development of the ovum and remained quiescent for years after birth, until excited, by some unknown cause, to develop into a malignant tumor.

Thus far all attempts to originate the "cancer cell" *in vitro* have failed. Can it be done? If it is ever to be accomplished it will be done by bringing together "maturated" epithelium cells and spermatozoa (or spermatic extract). There is no other way.

In accordance with this hypothesis what is the difference between benign and malignant growths? In benign growths the tissue cells that have been transformed into sexual (reproductive) cells—male and female—conjugate with *each other* and produce cells like the parents, of which we have a notable and familiar example in the case of fibro-myomata of the uterus, in which the tumor cells are almost indistinguishable from normal muscle and connective tissue cells in the uterine wall.

But in malignant growths, while the transformed epithelial cells *may* also conjugate with each other, with a benign result, they are also liable to conjugate with the spermatozoid—an entirely foreign individual, an invader from without—having its origin in another human being, and bringing with it all those wondrous powers of differentiation which it has inherited, step by step, through aeons of geologic time and untold ages of ancestry. Hence the progeny can be nothing but an *un*typical product—that monstrous prodigy of evil—the *malignant* growth.

Having now discussed the matter in a theoretical way, let us next consider some of the well known clinical facts that fall in line with the hypothesis.

First, and preëminent among these, is the great prevalence of uterine cancer—perhaps the most common and frequent of all cancers.* That spermatic infection may explain this frequency is indicated by the rarity of the disease in *virgins*. Bonney,[23] in his report of 1,876 uterine cancer cases at the Middlesex Hospital Cancer Research Laboratory, found that only 9 per cent. of the women had not borne children, and that clinically a case in an *undoubted* virgin was almost unknown.'' Of 156 women with uterine cancer, under the observation of Dr. Williams, only *ten* were single ; of 168 cases, tabulated by West and Duncan, only *three* were single.[24] There is no evidence, one way or the other, that these ''*single*'' persons were virgins ; so they *may* (?) have been subjected to spermatic infection.

Cancer occurs with considerable frequency in the other reproductive organs (Williams says about 70 per cent., *including* uterine cases). But the *cervix uteri* is the structure in which it is *most frequent*, and it is this *part* of the uterus that is so frequently the seat of abnormally rapid cell proliferation resulting from chronic endocervicitis, lacerations, erosions, cicatrices and the like, by which the normal somatic cells have been (so to speak) *teased* into the formation of reproductive ones with which spermatozoa are liable to conjugate. And, again, is there any part of a woman's body that is more likely to be continuously submerged in spermatic fluid than the neck of the uterus? None. Thus then the two factors required by our hypothesis for the production of cancer, viz : abnormally rapid cell proliferation and spermatic infection, are operative in an unusually striking degree upon a part of the body (the cervix uteri) in which cancer is most common.

How can we explain cancer of the breast '' which is relatively almost as frequent in the single and sterile as in the married ? '' [26]

The explanation is simple, viz : spermatic infection. When we recall what has already been said as to the persistent vitality of the spermatozoon, and its revivescence after several days of apparent death, it is only necessary to add the conditions by which the spermatic elements may be distributed through a household, to see how they may readily gain admittance to the mammary gland.

In a home, the sources of spermatic infection are : losses from the male and vaginal retro-fluxes. Thus occur spermatic contamination of clothing ; the draperies of the couch, night-clothes,

* The last U. S. Census, 1900, Vol. 4, Vital Statistics, part 2, p. 116, shows that *deaths* from cancer of the *stomach* were 7,423, while deaths from uterine cancer were only 3,526—only half as many. But we must remember that cancer of the uterus can occur in but *one* sex, cancer of the stomach in *both* sexes. *Deaths* in uterine cases are reduced by timely hysterectomy, while stomach cases cannot so often be saved from death by operation.

napkins, towels, sponges, washrags, the toilet articles of the bath room, the bath tub itself, and preëminently, and perhaps above everything else, the warm water *in* the bath—water rendered still more conducive to the activity of the spermatozoon by the alkaline soap with which it is mingled.

Only admit the infecting power of the spermatozoa, and the different means by which they can be distributed through a household are almost "legion." A human hand contaminated (*e. g.* during *coitus*) with so small a quantity as half a drop of spermatic fluid will convey to the bath 2,735,438 spermatozoa; how many more millions would be dispersed in the water from the larger retro-fluxes *per vaginam*, is perhaps beyond calculation.

Disseminated through the water they come in contact with every part of the skin, and with every mucous orifice, among others, of course, the orifices of the milk ducts, hence spermatic infection of the mammary gland.

It may here be added that in cases of skin lesion, scabs, warts and the like, in which a prolonged proliferation of somatic cells has been kept up by picking, scratching and so on, until reproductive cells with reduced chromosomes have appeared ready for conjugation, these transformed cells will meet in the bath the spermatic elements required to produce the malignant neoplasm. The well-known rarity of cancer among savages will here find *one* of its numerous explanations, viz: the savage does not distribute spermatozoa over his body by means of an alkaline and saponified warm bath.

In many instances, no doubt, a contaminated finger may be the intermediary host by which spermatic infection may be conveyed to a diseased spot upon the skin, even without the instrumentality of a bath. J. Loeb, in his experiments on the artificial fertilization of sea-urchin eggs had to take "bacteriological precautions against the possibility of contamination of the *hands*, dishes and instruments with spermatozoa."[27] Even in breast cancer, then, a contaminated hand deserves serious consideraton.

How will our hypothesis explain so-called "*cancer-houses?*" During the last few decades, numerous instances have been recorded[28] in which cancer appeared with unusual frequency in what were designated as "cancer-districts," "cancer-houses" and even "cancer-rooms." Numerous unsatisfactory explanations have been attempted, most of them based upon the "*microbe theory of cancer*," but without any known microbe.

Williams concludes his chapter on the microbe theory, and the "spreading of the disease by infection," as follows: "The curious medley of chaotic and conflicting statements advanced by the advocates of infection in support of their thesis, seems to me to be of little worth. We need not seriously entertain these fairy tales, until their great progenitor—the hypothetical microbe of cancer—has been discovered."[29]

Let us now see to what extent the spermatozoon may fill the requirements of this "hypothetical microbe" and help to explain "cancer-houses" and "cancer-rooms."

If what has already been said be true, it is easy to realize that the prevalence of cancer in a house, or a room, will largely depend upon what may be called the *spermatic habits* of the inhabitants, male and female, and their regard for and practice of cleanliness, or the reverse. The laundry and the bath may become instruments of domiciliary distribution of spermatozoa in one house and not in another. In the "cancer-house" there may be one or more males whose spermatozoa possess more than usual vitality, motile activity and conjugating power than in other houses. In the cancer-house there may be more disciples of Onan than in other houses. Thus the spermatozoon possibly can provide a scientific basis for the "doctrine of cancer-houses," and furnish a *real* microbe in place of a hypothetical one.

Unlike cancer-houses there are other human habitations in which the occurrence of cancer is comparatively rare. These are: prisons, asylums and monasteries.[30] This comparative exemption has been ascribed to abstemious diet, especially to abstinence from meats, wines and other table luxuries. Here we note that these luxuries are potent factors in producing an increased production of spermatic fluid in those who use them; the less sperm produced the less there is to be distributed through a house and a consequent reduced liabilty to spermatic infection. The fasting or half-starved man produces but little semen. *His* organism is mostly concerned with the *first* law of nature, *self*-preservation; with regard to the *second* law, *race* preservation, he is quite indifferent, but let us feed him and feast him and the sleeping reproductive instinct will return; the vesiculae seminales will once more be filled, with the liability to discharge of their contents and spermatic infection of the environment.

If there really be this swarming of spermatozoa in "cancer-houses" it may be asked why this liability to cancer is not accompanied by a liability to pregnancy, even in the unmarried residents. The reason seems to be clear enough. When the somatic cells of a woman's body (whether in the uterus or elsewhere) have undergone repeated proliferations and become transformed into reproductive cells with reduced chromosomes, ready for conjugation with spermatozoa, the *number* of such cells must be *millions*, and they remain continuously present, day after day, and are constantly exposed to the risk of spermatic infection *ab extra*. On the contrary, the number of ovules that have undergone "maturation" ready for conjugation, is *only one*, and this one usually dies in its transit through the fallopian tube (if not impregnated) while it is yet a good way off from the influence of external spermatic infection. Then further, these solitary ovules are only present for a few days during each month, so that the

liability to pregnancy from spermatic infection in "cancer-houses" would be some millions of times less than the liability to cancer.

It may be added, however, that cases of pregnancy occasionally occur, in which an *un*married woman will deny the *possibility* of gestation and continue so to do until she hears the cry of her new-born child. We regard these women as either untruthful, or deluded; but they need not be either. We all know that pregnancy is *possible* through the instrumentality of an "intermediary host," without the sexual relation. And before we condemn these women for untruthfulness we should remember the possibility of impregnation being produced by dispersed spermatic elements.

Again: if spermatic infection linger about chamber draperies and the toilet paraphernalia of bath rooms, etc., it should follow that persons who are unduly exposed to contact with such contaminated articles should show an increased liability to cancer. And they do. Williams[31] states that "with regard to the influence of occupation on the liability of women to malignant disease, the most significant item hitherto elicited is brought out by the U. S. Census Report of 1900, which shows that *domestic servants* are unduly prone to cancer; thus during the age period of 45 to 65 their mortality from this cause was *double* the average, and at ages above 65 it was *triple* the average.

Dr. Williams says that of 142 female hospital patients with cancer under his own observation, their occupations were: domestic service, 62; needlework and dressmaking, 28; laundry, 16; nurses and midwives, 16; leaving only 20 of the 142 cases whose occupations did *not* incur exposure to infected clothing, etc., these were governesses and school teachers, 7; factory hands, 7; shop assistants, 4; barmaid, 1; actress, 1. Thus again the liability to cancer and the liability to spermatic infection seem to go hand in hand.

It is well known that cancer is less frequent among the aborigines than among civilized peoples, and, further, it seems to be extremely rare in *very cold* climates. MacGregor never saw a case among the Esquimo.[32] It is almost unknown in Iceland, Greenland and the Arctic regions. In explanation, we may say the temperature probably is so low as to preclude the survival of wandering spermatozoa outside of the human body. Moreover the extreme cold probably contributes to inhibit the secretive activity of the testes; hence a minimum of infecting material.

Others of the aborigines, however, live in extremely *hot* climates, but here again the very *high* temperature may kill the straying spermatozoid, as well as curb the secretive activity of the testes.

Let us next explain chimney sweeps' cancer. In England, as shown by the Registrar General's Report,[33] deaths from cancer

are more than *twice as frequent* among chimney sweeps as among any other class of "occupied males." The death rate in one million occupied males, between the ages of 25 and 65, for the period 1890–'91–'92, from chimney sweeps' cancer was 1,560; while the average death rate, from cancer, in all other occupied males was only 440. The next highest cancer mortality occurs in a group containing "tallow, soap, glue and manure makers," where it was 730. But note that these 730 deaths are still below one-half of the 1,560 occurring in sweeps.[34]

Dr. Williams questions the reliability of these statistics, and for the reason, among others, that nothing of the kind has been noted in the United States.[35] Dr. Williams was probably unaware that the number of chimney sweeps in this country is very small. I find the highest number ever given by any U. S. Census Report was only 73.[36] Today there is only one chimney sweep in Washington.

Another writer[37] states; "That the chimney sweep has by far the highest mortality of all trades."

In conformity with our hypothesis two things are necessary to explain chimney sweeps' cancer: 1st, Rapid proliferation of somatic cells; 2d, Exposure to spermatic infection.

Now, it has recently been ascertained, by direct experiments *in vitro*, and notably by Dr. Hugh C. Ross,[38] that certain substances act upon living cells as "*Auxetics*," *i. e.*, as excitors of rapid cell proliferation. Dr. Ross mentions a good number of these Auxetic agents, viz: gasworks-tar, pitch, creosote, paraffin, tallow, guano and necrotic materials resulting from cytolysis, etc., but it only concerns us here to note that one of these auxetic agents is *soot*. The soot particles, it seems, enter the tissues and remain within the body for many years, thus exciting cell proliferations in abnormally rapid succession, until "senescence" occurs and the *a*sexual cells become reproductive ones (the rejuvenescence of Maupas) and are thus liable to conjugation with spermatozoa. Twenty years ago W. G. Spencer[39] demonstrated the existence of soot particles, not only in the intercellular spaces of the scrotal tissues but within the epithelial cells themselves, which could be mapped out by the black soot particles they contained.

The *first* requirement, then—in so far as our hypothesis is concerned with chimney-sweeps' cancer—viz: abnormally rapid cell proliferation, is explained by the auxetic soot particles; the *second* requirement, viz: extraordinary exposure of the scrotum to spermatic infection, "goes without saying"—it almost equals the cervix uteri in this respect.

It may be added that gardeners who use soot get cancer of the hands—hands, it may be presumed, that have *not* been subjected to any very rigid *a*spermatic technique in the way of sterilization.

We have before mentioned that the comparative exemption

from cancer among uncivilized peoples could be partially explained by their not using contaminated baths, and by extremes of heat and cold killing wandering spermatozoa in the regions where these peoples live. It must now be added that the aborigines are still further protected from cancer by the same means which also protect certain classes in civilized communities. Thus, it is well known, it is universally admitted without any sort of question or doubt, that it is the well-to-do, the well-fed, the rich, the idle who are most liable to cancer in civilized communities; while the poorly-fed, indigent and hard-worked are much less liable to the disease. Now, while a superabundant nutrition, with but little expenditure of nervo-muscular effort in the "struggle for existence," conduces to rapid *cell proliferation*, it also leads to a superabundant *production of infecting spermatic fluid*. At first sight this may seem to be a somewhat crude or indirect statement, but it states an actual fact that we cannot ignore or avoid. It is a logical sequence of the hypothesis we are discussing: we are obliged to realize it. The number of millions of spermatic elements allotted to each cubic yard in a human habitation (I do not mean distributed in the air, but upon contaminated clothing, etc., as previously explained), in the light of our hypothesis, is quite as worthy of scientific recognition as the number of bacteria contained in a cubic centimeter of milk or water which the inhabitants drink. We must follow where the hypothesis leads; and it leads us to realize, and compels us to acknowledge, that *un*civilized peoples, and the poorer classes in civilized communities, are comparatively exempt from cancer because they have to contend with a much *smaller liability to spermatic infection* than obtains among peoples oppositely placed.

Enough has now been said to explain the meaning of this hypothesis. If it be true, how shall we prevent cancer?

First, and above everything else, by educating the people to understand that spermatic fluid is not always a harmless substance, especially with individuals past maturity, whose cells have undergone numerous and rapidly repeated proliferations, and which are likely to have become reproductive (sexual) cells, liable to conjugation with spermatozoa. Those who come in contact with materials liable to be infected (even though the infection may not be discernible) must learn the necessity of clean hands—hands made "surgically clean" by an *a*spermatic technique if possible.

Second. Abolish the bath-*tub* and substitute the *shower*-bath—another happy illustration of the benefit of "reversion to ancestral conditions"—reversion to an imitation of those uncontaminated showers from the clouds, with which Nature cleansed the skins of our prehistoric ancestors.

Third. No spermatically-infected fingers or other things, such as pencils, penholders, toothpicks, knives, forks, spoons, cups,

etc., breads, cakes, foods, confections, pipes, cigars, etc., should be allowed to come in contact with the lips or mouth.

But we need go no further. If the hypothesis be true the prophylactic details can be easily ascertained.

In conclusion, while this discussion has had to deal with unusual, almost offensive ideas, it should be remembered, in extenuation thereof, how great is the magnitude of the purpose sought to be attained, viz: the *prevention of cancer*, the records of which disease have produced a page in the history of civilized peoples, supremely grievous—none more so, perhaps—a disease, too, that afflicts especially the gentler and better part of humanity, our patient and enduring women, over whose heads this spectre of cancer hangs, like a sword of Damocles, the perpetual fear and menace of their devoted lives, and whose accumulated sorrows during the passing centuries, on account of this fatal malady, have probably produced a tide of tears on which the Dreadnoughts of the world might float.

Under these circumstances, if there be reason to imagine that the cause of cancer has been concealed behind a veil of sexual secrecy—of sexual uncleanliness and vice—the veil must be drawn aside; if this malignant enemy of mankind has been hidden away in a "chamber of horrors," whose portals we dislike to enter and whose doors have been barred against us, these doors must nevertheless be forced, the entrance must be made. No stone should be left unturned, and no step neglected, that can offer any, even the slightest, hope of cancer prophylaxis.

In writing this paper I have sought for facts that would contribute to render the thesis untenable and illogical, but I have not been able to find any; perhaps the Society may supply some.

May I tax your patience with just one more thought, viz: Is there any chance whatever to deduce from this hypothesis that apparently impossible consummation, a *cure* for cancer? Contrary to our general belief cancer sometimes gets well spontaneously. Bland-Sutton says:[40] "In many instances cancer seems to have a period of quiescence and then to enter on a period of recrudescence" * * * "occasionally in carcinoma the primary focus" (of the disease) "may atrophy and become inconspicuous." In these cases what has happened? Has the cancer growth died? Why not? An embryo *in utero* may die; why should not this pseudo-embryonic structure—cancer—die also? For many years attempts have been made to kill it by introducing into the host toxins of different kinds, both mineral and septic.

An embryo *in utero* soon dies if deprived of oxygen: it is killed by suffocation, and without any injury to the mother. Can we suffocate cancers and thus kill the parasitic growth? It would be quite easy to surround and immerse a cancer continuously in a chamber of carbon dioxide. In uterine cancer the vagina

could be inundated with this gas; and in external cancers suitable devices for maintaining gas-filled chambers over the morbid growth could be easily arranged.

That the cells of cancer are aerobic, and not anaerobic, that they require oxygen for their continued life and development would seem to be evident from the experiments of Loeb,[41] which show that the moment a spermatozoon enters an unfertilized *an*-aerobic cell, at once oxidation begins and the now fertilized cell is a distinctly aerobic one, and *must* have oxygen for its continued evolution. Thus, then, we may possibly kill our cancers by cutting off their arterial supply by ligature or suffocating them with carbon dioxide.

Finally, this hypothesis of ours may turn out to be a "castle in the air," but if its beacon light can indicate new lines of investigation through the jungle of modern cancer research; if it can show a yet untravelled path through the wilderness of speculation with which the "cancer problem" is surrounded, it is hoped, what has been said may encourage those who have better opportunities than I to find out whence these paths lead, whether to something or to nothing. Experiment must decide.

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Dr. W. P. Carr said that Dr. King had advanced many ideas in connection with the cancer problem which he himself had long entertained, but he had never found it necessary to suggest the spermatozoon as a cause for the proliferation of cancer cells. It had always seemed to him that continued irritation would be sufficient to start the unregulated proliferation of cells which precedes malignant degeneration of tissue; and it is of interest that Williams has now altered the position which he had long held and at present upholds the idea that irritation plays an important rôle in the pathogenesis of cancer. When groups of cells capable of reproduction are cut off from nerve control, what more may we expect than that they will propagate in a manner independent of the needs of the body upon or within which they are growing; and this is what happens in skin grafts. Whether the cells in skin grafts become reduced in the number of their chormosomes Dr. Carr was unable to say; but in all such rapidly proliferating cell growths the tendency is to invade the body except when the outgrowths are stopped by fibrous tissue. In any theory of the etiology of cancer a predisposing cause is necessary, and, whatever this predisposing cause may prove to be, it appears to be a condition of living in civilized communities. He had been inclined to regard as the probable predisposing cause the nerve exhaustion which results from the complex requirements of civilized life.

Dr. Prentiss Willson was exceedingly interested in the paper; surely Dr. King had adduced much circumstantial evidence in support of his hypothesis. It may be understood how spermatozoal infection of the surfaces of the body is possible in the manner suggested by Dr. King; such infection may be understood even if the mucous surfaces continuous with the cutaneous surfaces be included in the surface of the body; but how can it be thought that spermatozoa can survive passage through the highly acid gastric juice and thus infect the stomach or intestine, when it has been pointed out by Reynolds that sper-

matozoa quickly expire in the mildly acid fluids of the vagina? How may we thus explain spermatozoal infection of maturated cells of the meninges of the brain unless we presuppose spermatozoal infection of the blood stream? And under what circumstances could such an infection occur?

Dr. Carr was surprised to hear that spermatozoa have such viability under adverse circumstances as had been indicated in the paper; he had supposed that even exposure to water would kill them relatively quickly.

Dr. Werber said: When the scientific method, aided by instruments of precision, beats down barriers and gives us a decisive victory over disease I am going to applaud with all my might. But when the sectarian method, guided by the imagination, blazes the way to the attainment of greater perfection I am going to applaud *doubly loud,* considering that we have gained just that much more than we had expected and are leaving no means untried to retain our rightful position in the hearts and minds of the people.

I wish to thank Dr. King most heartily for this paper, which is the most unique in the whole history of medicine. I do not wish to appear to be exacting, but the gravity of the situation seems to me to warrant us in asking Dr. King to urge his Pegasus just a few rods further to reveal to us the bad dietetic habits and other causes which excite these pestiferous spermatozoa to deeds of violence in their erotic, Bacchanalian, lecherous rape on somatic cells, polluting God's temple with these "bastards" and flooding the world with an ocean of tears; and to point out to us the influence of the simple life, fasting and other means which are known to restrain them within due bounds.

As an unsophisticated boy I jollied Dr. King about his theory that mosquitoes propagate one of the twin scourges of the earth. And, after the lapse of all these years, I wish to make Dr. King a public apology for this audacity, and to express the wish that he will live to see the day when every unsophisticated boy in the land will take off his hat to him, and the men of mature years will all join with us in paying him homage for his unparalleled distinction of slaying *two* of the hydra-headed monsters which stand with threatening attitude between the human race and paradise.

Dr. King replied to Dr. Prentiss Willson that internal cancers, such as meningeal carcinomata as instanced by Dr. Willson, are regarded by some authorities as always of metastatic origin, or they are misplaced fetal fragments as explained by Cohnheim's theory, mentioned in the paper.

Dr. King thanked Drs. Carr and Werber for their more than kind remarks, and in conclusion said that as the earliest literature of mankind had been in the form of songs, psalms and

rhymes, we seemed to have inherited a disposition to be favorably impressed with any statement that could be supported by a line or two of poetry. Not wishing to leave anything out that might contribute to emphasize his ideas on cancer, he had composed the following rhyme:

What means this production of abnormal birth,
This bastard production called "Cancer?"
Has some maiden cell been subjected to rape,
To gamogenetic seduction?
From such a conception there seems no escape,
Cancer comes from ill-starred reproduction.
But who were the parents—the maid and the male,
Concerned in this base conjugation,
From whom sprang a progeny, useless and frail,
Disloy'l and beyond regulation?
For this is the problem so hamper'd with doubt,
Our *savants* for ages have tried to find out.
We should not decide till we really discover,
The actual conjunction of maiden and lover.
There are things still concealed,
That must needs be revealed,
Before we can certainly tell;
But so far as we've gone,
From the facts we can gather,
The maid was a ripe epithelium cell,
A spermatozoid was the father.

THE VALUE OF SKIAGRAPHY IN THE DIAGNOSIS OF ANEURISM OF THE ABDOMINAL AORTA.—PRESENTATION OF CASE AND DESCRIPTIVE X-RAY PLATES.*

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Three years ago one of the most prominent surgeons in this country, if not the leading operator in vascular surgery throughout the world, stated that x-ray examination of aneurism of the abdominal aorta would seem to be valuable only as a means of confirming an already positive diagnosis. Such a statement may have been justifiable at that time, but with the improved technic and perfected Roentgen apparatus of today we are not only able to confirm a diagnosis of aneurism, but we may establish a positive diagnosis in fairly early stages of such a condition in even extremely doubtful cases. In aortic aneurisms within the thoracic cavity the differential diagnosis most frequently lies between aneurism and mediastinal tumor, and the skiagraphic

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diagnosis is by no means easy, but expert work by a skilled operator will quite frequently obtain a positive diagnosis of aneurism, particularly so when the aneurism is situated in the arch of the aorta. Vascular skiagraphy is far more difficult than that of bones and other tissues, and we frequently have to resort to the bismuth meal to assist us in determining the presence of an expansile tumor situated along the course of the esophagus. Aneurism of the descending aorta is more difficult to diagnose, and an aneurism of the abdominal aorta presents almost unsurmountable obstacles to the radiographer.

Abdominal aortic aneurisms are comparatively rare and practically no skiagraphic work has been reported dealing with this phase of the vascular system, the entire attention having been directed to the thoracic aortic aneurisms, which are far more frequent and easier to portray. Moreover, in aneurisms within the thorax we may also resort quite profitably to the use of the fluorescent screen; this is out of the question in the x-ray examination of the dense tissues of the abdomen.

The rate of incidence of aneurisms is about 3 abdominal to 13 thoracic aneurisms. Osler observed only 16 cases of aneurism of the abdominal aorta among 16,000 admissions to his wards at the Johns Hopkins Hospital. The combined records of Vienna, Guy's Hospital, London, and the Bristol Royal Infirmary show 70 cases of aneurism of the abdominal aorta among a total of 44,952 autopsies.

In the report for Saint Bartholomew's Hospital for 1911 is published an excellent article on abdominal aneurism by J. A. Nixon. This writer compiled 233 aneurisms of the abdominal aorta; 207 occurred in males, 26 in females; 152 terminated in rupture; 121 occurred between the age of 25 to 45.

Osler lays special emphasis on syphilis as the vital factor in the causation of aortic aneurisms; hard work and great physical strain being secondary factors in that they permit a dilatation of this large vessel when weakened by syphilis. Matas considers it improbable that hard work is capable of producing aneurism of the abdominal aorta. Sudden, violent exertion, however, may play an important etiological rôle due to the sudden increase of the blood pressure.

Aneurism of the abdominal aorta is likely to arise at any point between the diaphragm and the iliac arteries, but occurs most frequently at the triangular part of the aorta formed by the diaphragm above and the celiac axis below. Most aneurisms of this vessel are of saccular type and later become fusiform, and by far the greater number extend to the left.

Abdominal aortic aneurism is, as a rule, not recognized early. Usually the condition has progressed so far that an expansile tumor can readily be seen and the pulsation easily acquired by palpation before the true nature of the condition is suspected,

and in many cases the diagnosis is not made *intra vitam.* When the aneurism has advanced to the stage first mentioned there is little doubt about a correct diagnosis, but it comes too late to be of any benefit to the patient. The only means at our disposal of ascertaining the true status of an obscure symptom-complex arising within the abdomen resides in exploratory laparotomy and skiagraphy. Of the two measures named skiagraphy should be done first if it is at all available, for it certainly will assist in arriving at a diagnosis by a process of elimination, if nothing more, and when an aneurism is present a plate will, to say the least, demonstrate erosion somewhere along the spinal column, and there is little difficulty in differentiating between an erosion due to the pressure of pulsation by an aneurism and tuberculous osteitis; comparative plates will show nothing in common between the two.

A large number of cases have been reported where the aneurism was not recognized during life and, as in this case, the patients were treated for ailments which they did not have, with consequent failure of cure and no improvement in the general condition. Dr. Barton informed me that he observed a similar case some fifteen years ago when x-ray work was in its infancy. Plates were made at that time, but the condition was not recognized on account of inability to correctly interpret the shadowgraph. This is not at all surprising to those who are familiar with the difficulties encountered in the reading of a plate in obscure conditions even at the present time. Dr. Barton was fortunate in obtaining an anatomical diagnosis, however, which proved to be aneurism of the thoracic aorta. Following this finding the plates were brought out again and the erosion of the vertebra was then recognized without any trouble.

Syphilis is conceded to play the leading rôle in the causation of aneurism and an early diagnosis with subsequent treatment of this disease may arrest the atheromatous condition of the aortic wall and prolong the life of the patient, or if operation is indicated it may offer some hope at that stage of the disease, for when once the condition has caused much pressure atrophy and the vertebrae are deeply eroded so as to permit pressure on the cord with subsequent pressure symptoms, and the sac of the aneurism has attained considerable size, surgical intervention will partake of the nature of a lottery with the odds against the patient. The operations *per se* of such cases were as a rule successful, but the patient rarely ever participated in the benefits for more than a few days or weeks at the most, and it goes without saying that he might have lived that long or longer without surgical aid.

When radiography is not consulted the diagnosis depends entirely on the presence of a definite palpable and visible tumor with an expansile pulsation. All other findings are of minor

importance and not pathognomonic, and therefore it is well-nigh impossible to establish a positive diagnosis in aneurism of the abdominal aorta in the early or moderately developed stage by the ordinary clinical methods at our disposal.

The prognosis of aneurism of the abdominal aorta is most unfavorable when the condition has not been recognized until late, as has always been the case hitherto. I incline to the belief, however, that the more systematic recourse to skiagraphy in obscure abdominal conditions will lead to earlier recognition of aneurism long before the tumor and pulsation become so evident, and in such cases vascular surgery—perfected as it is today—will prove efficient in a large percentage of cases.

The average course of abdominal aneurism of the aorta extends over from 12 to 20 months. A case has been reported running a course as short as 19 days, while another extended over a period of 12 years, a most unusual occurrence.

The usual termination is by rupture; 65 per cent. die directly from rupture, the remaining 35 per cent. succumb from other causes. Rupture of an aneurism of the abdominal aorta is not always immediately fatal. A large proportion of deaths occur shortly or within a few hours after rupture, and in the majority of cases the duration of life does not exceed two weeks. On the other hand Rendu and Buscarlet have reported a patient who lived three months after rupture of a diffused aneurism spreading from the diaphragm to the left iliac fossa. I believe this is the longest duration of life, after rupture of an abdominal aneurism, on record. Hertz and Bodineau reported a sacciform aneurism of the abdominal aorta which, by rupture, formed a diffused aneurism. The internal hemorrhage manifested itself only by a general and progressive weakening of the general health, leading the authors to suspect a malignant neoplasm. The etiology of syphilis was established by a positive Wassermann reaction. Rupture of the aneurism followed the two injections of "606," which emphasizes the dangers of the administration of this remedy in diseases of the vascular system.

The treatment of this condition will depend upon the stage of development and type of aneurism. I shall not enter into a general discussion of this phase of the subject except to state that the best medical treatment is the treatment of syphilis whenever this disease is present combined with absolute mental and bodily rest and a restricted diet, known as Tufnell's method, and the administration of iodide of potassium up to twenty grains three times a day. The effect of the latter is only palliative, apparently relieving the pain to some extent, and it does not seem to be of any special efficacy in syphilitic cases. Aspirin in doses of 8 to 20 grains every four hours has proven very effective in my case as an anodyne and in combating flatulence.

Of the many varied surgical procedures resorted to from time to time none has been so successful as to merit special mention. Subcutaneous injection of gelatin, compression and also ligature of the aorta, needling the inner lining of the sac, the passing of a constant current through a wire introduced into the aneurism, and other methods, have been tried with little success, while ablation of the sac with suture of the aortic wall and application of protective plates offer little hope in late cases. It is not unlikely, however, that the last named procedure may prove successful in the early treatment of small saccular aneurism of this large vessel.

With your kind permission I wish to present tonight several skiagraphs which I prepared, as well as the patient suffering from aneurism of the abdominal aorta. Before discussing the plates I would solicit your indulgence for a few minutes in the presentation of a brief history of the case.

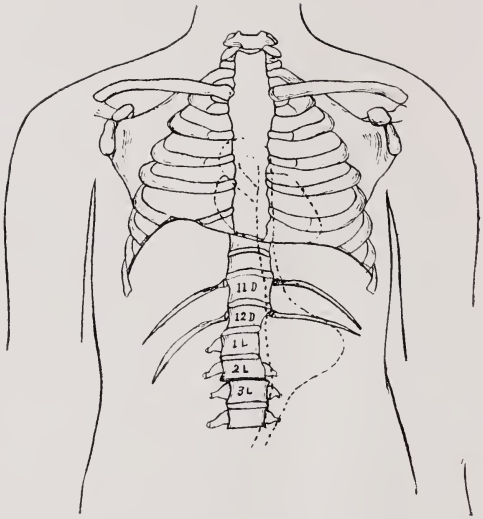
W. H. R., mulatto, fireman in a boiler room, age 36, married seven years. Lues denied. As this factor is important I had Dr. W. W. Wilkinson test some blood from the patient with the result that he obtained a negative Wassermann reaction. Patient has lived a rather cavalier life; drank, but not to excess; he says that he has been drunk only once. Had specific urethritis nine years ago. He was his own physician and effected a cure. States that he hurt his back lifting a heavy pump in April or May, 1911, about twenty months ago. He felt a "crack" in the back at the time, but was able to continue work. His back began to pain so the next day that he consulted a physician. He experienced a dull constant ache, aggravated by exertion, so severe at times that he had to stop work. He was given lighter work to do, but even then the pain would be so severe at intervals as to force him to seek absolute rest. This pain has been his constant companion for nearly two years, and of late the crises have been more intense than ever before. Rest in bed offers some relief, but sitting or standing is more grateful, and lying on a table face down gives him more relief than any other position he may assume. The pain radiates to the edge of both hips, and he states that lately he has been troubled with "a scalding sensation of the groins" and a sense of weakness in his lower extremities. This is no doubt the result of pressure on the cord. During the intervals between the intense pain—which intervals have usually extended to about two months, but now encompass only a week or ten days—he is conscious of a continuous boring ache and a discomfort which is quickly accentuated whenever he bends or stoops, and during the past two or three months he tries to avoid all unnecessary movements, shielding his back as much as possible. For example, in picking up his hat from the floor I observed that he will keep the spine perfectly rigid and flex his legs upon the thighs and the thighs

upon the abdomen until he can reach the hat, when he straightens out in reverse order. Two years ago his weight was 180 pounds, but during the last year he has lost weight rapidly and now weighs only 117 pounds. He states that several physicians treated him for different conditions. One is said to have expressed the belief that his condition was due to some disease acquired in the tropics; another diagnosed his condition as tuberculosis and treated him for it without benefit.

I saw him for the first time on the night of Nov. 26, 1912. He was suffering from intense pain in the back and had not slept for thirty-six hours. He was lying in bed on his back and I examined him anteriorly without finding anything not normal. I asked him to turn over on his face and let me see the spot that caused the pain. He tried to turn over, but the pain was so intense that I had to assist him. As soon as he had removed his shirt I noticed the tumor about six centimeters to the left of the last dorsal or first lumbar vertebra. On bringing the light to bear on the area it appeared that the protrusion was expansile and pulsating. Palpation confirmed this. There was no bruit or murmur, nor did firm pressure cause any increase in the pain, it rather ameliorated it a little if anything. I applied sufficient force with the palm of my right hand to press the tumor down to the level of the thoracic wall without causing him any inconvenience. Diagnosis: Probable thoraco-abdominal aneurism of the aorta. One-fourth of a grain of morphia relieved the pain in a few minutes and he expressed the desire to get up. The next day he went to work. At present he is a watchman in one of the Departments and his work is very light. On the following day I made the radiograph which I shall present first.* This plate shows a partial erosion of the first lumbar vertebra. The anterior and lateral left portion is eroded and the lateral process has been obliterated. It shows, moreover, a lateral deviation of the spinal axis to the right, most pronounced at the site of the involved vertebra. The last rib has also been subjected to pressure with subsequent atrophy and displacement. A distinct shadow extends from the upper border of the 12th dorsal vertebra down to about halfway of the second lumbar vertebra and is seen to extend about 7 centimeters to the left of the first lumbar spine, which corresponds to the maximum pulsatile point. This point is designated by a metal clip which I fastened to the skin with a strip of adhesive plaster before exposure of the plate.

About January 1st of this year he began to complain of pain in the left side of the abdomen. Palpation over the area corre-

*The detail of the diseased condition is brought out quite clearly on the x-ray plate, but much of this detail has been lost in the reproduction of the accompanying photograph. The erosion of the first lumbar vertebra. the lateral deviation of the spine, the difference in density and position of the two 12th ribs, as well as a faint outline of the tumor, may still be recognized in the cut.


11 D
12 D
1 L
2 L
3 L

sponding to the tumor posteriorly elicited an expansile pulsation which was quite pronounced, giving the impression that the aneurism was slowly giving way anteriorly also. In addition a distinct bruit was present, very distinct in front, not so clear posteriorly, and a loud bruit could also be made out in the vessels of the left side of the neck. The pain has been almost constant since then, more marked some days than others, but never absent. On the night of January 12th the patient experienced some discomfort in the precordial region and on examination the next day evidence of pericardial effusion could be elicited. His temperature has been entirely normal or subnormal (98° to 98.6° F.) since observation, with the exception of the past week when he ran a temperature ranging from 99° to 101° F., which dropped to normal January 12th.

He complained much of flatulence and eight grains of aspirin at intervals of four hours alleviated this considerably and made him very comfortable.

The second plate was a very brief exposure taken January 3d. It shows the same points as the preceding skiagraph and in addition gives an outline of the less dense tissues. We can readily make out what appears to be the aneurismal sack which is about the size of a cocoanut, and which is continuous with a shadow corresponding to the course of the aorta. Through the valuable assistance of Dr. R. Lee Spire I am enabled to present a schematic line drawing which illustrates the anatomical changes very clearly.

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Dr. Lemon wished merely to demonstrate a point made in the paper by Dr. Pfender, namely, the greater facility with which thoracic aneurism can be shown by skiagraphy. [He then exhibited some skiagrams of thoracic aneurisms.]

Dr. D. S. Lamb exhibited a number of specimens of abdominal aortic aneurysms from the collection at the Army Medical Museum.

Dr. Hynson complimented the essayist upon the paper and especially upon the enterprise which prompted him to exhibit the patient; the trouble involved in bringing such a patient to the Society was apparent, but abundant compensation is to be found in the greatly increased value of the case report when the condition can be seen in the patient himself.

Dr. Claytor remarked that even with the skiagram as an aid it is sometimes difficult in thoracic cases to determine whether the condition present is merely a dilated aorta or a true aneurysm. When sacculation occurs then the differentiation becomes simpler.

Dr. Frankland said that in the discussion the condition had been treated as a hopeless one from a therapeutic standpoint. He arose to speak of two cases in which he had administered calcium chlorid, with the hope of increasing the coagulability of the blood and so promote clotting in the aneurysmal sac; the probability of such an effect has been doubted, but in his two cases he had reason to believe that the treatment had been beneficial. The first case was that of an old woman, with an abdominal aortic aneurysm, arising apparently from the anterior aspect of the vessel; under calcium chlorid the symptoms greatly improved while the patient remained under his care; and now, many months afterward, while she is no longer in his care, she appears to be in good health. The second case was a popliteal aneurysm; calcium chlorid was administered; some time later, the patient dying of another condition, at the autopsy the aneurysmal sac was found filled with a firm clot.

Dr. J. D. Thomas said that the determination of an aneurysm of the abdominal aorta is a difficult matter, and especially in nervous patients with pulsating aorta, in which cases the point of maximum pulsation is just at the point of maximum frequency.

Dr. Pfender thanked the speakers for their participation in the discussion, and especially Dr. Lamb for bringing the exceedingly interesting specimens. The point made by Dr. Claytor was well taken, but the skiagraphic evidence would have value in any case whether positive or negative. The condition of Dr. Pfender's patient tends to grow steadily worse; the man realizes that he must shortly die, and if any surgeon in Washington thinks he can help the condition, the patient is ready to take the chances involved.

PERFORATING ULCER OF THE DUODENUM.*

By D. S. Lamb, A. M., M. D.

Washington, D. C.

In the Army Medical Museum are six specimens of perforating ulcer of the duodenum. All are from men; three were coroner's cases in Washington; the other three were soldiers at army posts. In all of them the ulcer adjoined the pyloric valve and is a typical funnel-shaped ulcer; in one case there are two ulcers. In all of them the perforation was followed promptly by extravasation of intestinal contents into abdominal cavity, and peritonitis; death occurred in two cases on the second day of the perforation, in one case on the fourth day, in one case on the seventh day, and in the other two cases the time is not stated. The ages ranged from 20 to 54 years.

The symptoms indicating the ulcer stage were not pathognomonic. The occurrence of perforation caused the usual symptoms of acute pain, cramps in abdomen, rigidity of abdominal muscles, face pinched, vomiting, hiccough, tympanites, cold sweats, collapse. The site of pain varied from the level of the umbilicus to the hypogastrium. In one case an exploratory laparotomy was done without discovering the perforation.

As to the symptoms of the ulcer, in one case frequent vomiting is mentioned. In another case, the only symptom mentioned is indigestion. In a third, gastric catarrh. In a fourth, nausea, waterbrash, uneasy feeling in stomach. In a fifth, there was no history at all. In the sixth, it is stated that there was a feeling of fulness after meals, poor appetite, bad taste, coated tongue, constipation, occasional sour eructation; finally it is said that the patient had acute gastritis. Nothing pathognomonic for any of the cases.

Dr. Hynson said that the subject of ulceration of the stomach and duodenum was of great interest to him. As to the etiology of the condition little is known; but there can be no doubt that there is some common cause. All the cases represented by the specimens, if studied according to the methods of present-day practice, would probably have been recognized during life. The idea that ulcers of the stomach can be caused by the irritation of food particles would seem to be unsound, because ulcers of the stomach and duodenum are all classed together and are probably due to the same causes, and as food is reduced to soft chyme when it enters the duodenum, mechanical irritation cannot cause duodenal ulcers. The relation between extensive skin burns and duodenal ulcer has often been pointed out, and the

* Reported, with specimens, to the Medical Society, January 15, 1913.

cause of the secondary ulceration is very obscure; had Dr. Lamb any explanation of this phenomenon to offer?

Dr. Lamb said that ulcers of the duodenum following surface burns are always found near the outlet of the bile duct, and it would seem that there is some relation between the ulceration and the secretions of the liver when altered as a result of the burns. Such ulcers are not found above the level of the orifice of the common bile-duct.

LUETIN REACTION IN SYPHILIS.*

By C. Augustus Simpson, M. D.,

Washington, D. C.

We all know the difficulty of diagnosing visible syphilitic lesions, even for the physician trained in that specialty. Its similarity to other diseases is often very striking. In its obscure forms, without external manifestations, we must often rely on the history of the case, presence of scars, leucoplakia, enlarged glands, peculiar headaches, Wassermann reaction, histo-pathology and therapeutic test. Under certain conditions, with all these methods, we may still be unable to say that the patient has syphilis. The Wassermann test, when positive, is a very valuable one, but, besides not being specific to syphilis alone, it is not absolutely decisive in all cases, especially in the tertiary form when the lipoidal substances appear to be reduced and free compliment is present in the serum. Should the reaction be negative it may mean that the patient has had treatment, that his syphilis has not been active enough to stimulate the production in the blood of lipoids or other substances upon which the Wassermann reaction depends, or that the patient has recently taken alcohol. Besides this, it gives us little means of prognosticating the case, for, after giving salvarsan and mercury, we know that the patient still has syphilis and that the reaction will again become positive. The situation is exactly what we are confronted with in gonorrhoea. The failure to find the gonococcus in an old case of gonorrhoea is often wrongly interpreted as a cure, but it is quite as good an index of complete eradication of the disease as a negative Wassermann is for a cured syphilis. Therefore, relying mostly on the Wassermann reaction in the presence of treated syphilis, we have had no method whereby we could prove that the patient had syphilis, or, if we were sure that the patient was luetic, we could not prove that the treatment he had taken had produced a cure. It is on account of these obscure

* Read before the Medical Society, February 12, 1913.

and treated cases that any new test which would give additional aid in detecting the disease when present would be a valuable adjunct to our present means of diagnosis, while the usefulness of that test would increase in proportion to its practicability and simplicity.

We know that several investigators, as Neisser, Nobl and Jadassohn, have anticipated the discovery of a cutaneous test in syphilis ever since the discovery of the spirochaeta pallida, and have based their failures in that direction on their inability to obtain a pure culture of the pallida. To Dr. Noguchi of the Rockefeller Institute belongs the honor of having first grown a pure culture of pallida (he has cultivated six different strains), and it is but natural for us to look to him for the realization of this long-felt need.

Dr. Noguchi's test is based on the theory that there is a peculiar change of reactivity in the system of individuals infected for some time with certain pathogenic organisms. This change is characterized by a hypersensitiveness to the injection of the causative organisms of the disease. Von Pirquet's cutaneous test in tuberculosis and the Malein test in glanders are based on this same theory and, as we often get a negative von Pirquet reaction in rapidly progressing tuberculosis because of the deficient production of defensive bodies, so in early syphilis, when the activity of the pallida is at its maximum, we may get a negative reaction. This may continue until the virulence of the organism is decreased either by the defensive bodies of the patient or appropriate treatment, and this accounts for the frequent absence of the reaction in early and untreated cases of syphilis. In primary and early untreated cases the results, as we all know, are quite inferior to those of the Wassermann reaction. However, should the case have had the benefit of treatment, especially salvarsan, the luetin reaction often becomes positive quite early. I have a case at present, of four months' duration since the initial lesion, in which the reaction is decidedly positive. In tertiary, latent tertiary and hereditary syphilis, the reaction seems to be quite constant, even more so in the hands of Noguchi, Robinson and Cohen, than the Wassermann test. Noguchi's report of 400 cases, comprising 254 cases of syphilis, shows close to 100 per cent. positive reaction in manifest, tertiary syphilis, 94 per cent. in latent tertiary and 96 per cent. in hereditary, an average of 15 per cent. more than the Wassermann.

Robinson's figures in 63 cases of syphilis were just as high as Noguchi's in tertiary and latent tertiary cases, while in secondary, untreated cases, the results were in favor of the Wassermann reaction. One interesting point was that in 108 of her control cases, comprising nearly all skin diseases, including two cases of Pityriasis rosea, only one case gave a positive luetin reaction.

This was a woman with acne who admitted two miscarriages, was a chronic alcoholic and was quite probably syphilitic. In Noguchi's 146 controls, comprising many skin and general diseases including malaria, leprosy and brain tumors, all of which may give a positive Wassermann, not one gave a positive luetin reaction. Cohen, in 60 cases of syphilitic eye conditions, comprising both secondary and tertiary forms of the disease, obtained 77 per cent. positive luetin reactions, using clinical symptoms and the Wassermann reaction as controls. In ten of his cases that he knew to be clinically syphilitic, the Wassermann reaction was negative while the cutaneous test was positive, presumably because of previous antisyphilitic treatment. He concludes that the luetin reaction will prove to be a valuable aid in the diagnosis of syphilis. The results of Dr. Howard Fox have not been so encouraging. In 33 tertiary cases he was able to get only 51 per cent. positive luetin reactions. Pollitzer's experience, given offhand and without statistics, was somewhat the same. With Drs. Engman, Pusey and especially Winfield, however, the luetin showed a higher percentage of positive reactions than the Wassermann. Winfield's late secondary and tertiary cases gave considerably fewer negative luetin reactions than Wassermann. All agreed that the test had a great positive value, and, while Pollitzer claimed to have seen a positive reaction in an urticarial case without syphilis, Drs. Fox, Pusey, Engman and Winfield have failed to see a single positive reaction in non-syphilitic conditions. I understand that this case of Pollitzer's has since been found to be syphilitic. Kammerer, in a Munich journal, speaks of luetin as a useful and helpful aid in the diagnosis of syphilis, and says that a positive cutaneous test is sure evidence of the disease.*

Most of the modifications of the Wassermann reaction have proved to be unreliable, but they have served to demonstrate the non-specificity of the complement fixation as applied to syphilis, which throws much suspicion on the entire reaction. Through the investigation of Muller and Landsteiner we now know that an antigen composed of normal tissue will yield practically the same results as one made from an aqueous or alcoholic extract of a syphilitic organ, as, for instance, the liver of a syphilitic child. To prove this, Noguchi and Brenfenbrenner have shown that the activity of the antigen of the original Wassermann reaction was often dependent on lipoidal substances instead of antibodies in the tissues and that the tissue need not necessarily be syphilitic. That the Wassermann reaction occurs in malaria, brain tumors, yaws and certain cases of leprosy, is but another proof of its nonspecificity. With the luetin cutaneous test we appear to have a definite biological test, the reaction of which

* The reports from Dr. Barker's clinic at Johns Hopkins Hospital gave higher luetin percentages than the Wassermann.

is dependent on the injection of a specific antigen, and, so far, this response has been elicited only from syphilis, while we know that the Wassermann may be positive in non-luetic diseases. Luetin gives a better indication of the defensive power of the host than the Wassermann and is a much more reliable means of prognosticating the case, while in patients under treatment or those who have recently taken treatment, the valuation of the test from a diagnostic standpoint is considerably higher than the Wassermann reaction. The test is perfectly easy to make in the physician's office, does away with the troublesome laboratory work and will, we hope, put an end to the use of that uncomplimentary term "bleeders," so often applied to doctors by our unappreciative patients and the public.

In primary and early secondary syphilis, without treatment, especially without treatment by salvarsan, the luetin test is not as constant as the Wassermann, but, should the patient have had mercury and salvarsan treatment, the luetin reaction may become positive even in primary lues. If the patient has not had treatment in early stages of the disease the Wassermann is even then seldom necessary, as we usually have either the primary lesion from which we can make cultures or stained smears, or the external systemic eruption on which to base the diagnosis. Should these be insufficient to establish the presence of the disease, the Wassermann reaction should be the method of choice in early syphilis. On the other hand, if the disease once reaches its later stages and has been subjected to treatment, the serum reaction, clinical aspect and microscopic examination of the pallida become difficult and often impossible. These are the cases which will most often give the luetin reaction, and it will be to the general physician, surgeon, ophthalmologist and neurologist in whose hands these obscure chronic forms fall, that the test will prove a useful aid in diagnosis.

Ordinarily the interpretation of the test is not difficult, although in several of my cases the controls have also reacted. There is no record of any case where the control has reacted without having at the same time a very positive luetin reaction on the other arm. That the control site should react also is probably due to the irritability of the skin of the syphilitic to external injuries, so that it is the general opinion, even if the controls do react, that it does not detract one particle from the specificity of the luetin reaction. The cutaneous test in syphilis, based on the phenomena of anaphylaxis, seems to be as specific as the tuberculin reaction is in tuberculosis, and we know that individuals may be anaphylactic to bacterial extracts as well as animals are to horse serum or proteins. If we should use plain culture media without the bacillus and its products in the controls of our von Pirquet's tuberculosis tests, instead of simply scari-

fying them, I am sure that these controls would react, probably as much as do the luetin controls.

I have injected over fifty cases with luetin, but have been able to follow and control with the Wassermann only 43 cases. These results include cases in all stages of syphilis, from early secondary to late tertiary forms, and five cases of tabes. In 38 active cases of syphilis, some in the first few months of the disease, I got over 80 per cent. positive reactions, while the late tertiary cases under treatment gave a much higher percentage. In the five cases with clinical symptoms of tabes, three gave a history of syphilis and of these only two gave a positive Wassermann and both of these gave positive luetin reactions.

From the excellent results obtained by others and from my own observations, I am satisfied that the luetin reaction, while it will not entirely supersede the Wassermann, especially in the early stages of syphilis, will, nevertheless, be extremely valuable in the old, obscure forms of the disease, while the simplicity of its technique is sure to popularize it with those not possessing laboratory facilities.

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3. Robinson; Diagnostic value of the Noguchi luetin reaction in Dermatology. Same jour., July, 1912.
4. Noguchi; A cutaneous reaction in syphilis. *Jour. Exper. Med.*, vol. xv.

Dr. Hideyo Noguchi said that the company present no doubt had as much knowledge upon the broad subject of syphilis as he could ever acquire, and he felt that he could add little to what Dr. Simpson had said with regard to the luetin reaction. He thought it might be of interest to tell somewhat of the experiences of foreign observers who have made use of the reaction, especially as he had had reports from points as wide apart as Europe, Australia, etc. In general there had been unanimity in the opinion that there is no reaction in non-specific cases. In the primary stage the experience everywhere is that the reaction is practically always negative; in the secondary stage, all observers agree that the luetin reaction does not appear as frequently as the Wassermann; possibly something less than 20 per cent. of positive luetin reactions is the average; the percentage of positive reactions will rise, however, when the patients are under treatment. In tertiary syphilis he himself had been able to obtain a very high percentage of positive reactions; but Pusey and others have obtained the positive reaction in only about 75 per cent. of their cases. However, many of the cases studied by Pusey and

others were negative to Wassermann but positive to luetin, and here is where the luetin reaction is of the greatest value. In infants the reaction is negative as a rule, but as soon as these little patients are put under active treatment the percentage of positive reactions becomes very high; he had obtained 90 per cent. positive reactions in infants between two weeks and two years of age.

In parasyphilitic conditions, so-called, he could recall many reports from institutions for the insane which show that the luetin reaction has been positive in 60 per cent. of the cases. And this is not to be wondered at when he could state that he had recently been able to demonstrate the spirochaeta pallida in the brains of general paretics. The luetin reaction has been reported positive in as high as 30 per cent. of cases of dementia praecox and of epilepsy. It is impossible to say that such cases are not in fact due to latent syphilis; and this suspicion is increased by those investigations that have served to point out the influence of syphilis in the production of feeble-minded offspring. Also, how can one exclude syphilis from those cases of carcinoma or of tuberculosis which react to luetin? In this connection he instanced the case of a man in New York who had a new growth in the throat which competent pathologists decided was carcinomatous. The luetin reaction was positive; occurring thus in a case of carcinoma, the reaction was condemned. He himself repeated the test, and the reaction again appeared positive. Operation was advised, but the patient refused and was put on active mercurial treatment; this resulted in rapid improvement and ultimate restoration to health. Therefore he maintained that the luetin reaction is specific for syphilis.

Dr. C. F. Craig, U. S. Army, said that his experience with luetin had not been very extensive, and his remarks, therefore, should be received with the limitations implied by the extent of experience. He fully endorsed what had been said as to the value of the luetin reaction in tertiary and latent syphilis, and also as a guide to treatment. In the work conducted in the army laboratory the luetin reaction had never been noted in any case in which syphilis could positively be ruled out; so far as his experience goes, the reaction is specific. He was not inclined to agree with Dr. Simpson that because the Wassermann reaction can be induced with antigen from normal tissues doubt is thereby cast on the specificity of the reaction; Dr. Craig did not believe that. It must be recognized that the Wassermann reaction may occur in yaws; but in any case in which he obtained a double plus Wassermann he felt absolutely sure that such a case was one of syphilis, unless it was yaws. A certain degree of caution must be exercised to exclude cases of leprosy; but with leprosy and yaws out of the way, and neither is apt to occur in this country, the Wassermann test may be relied upon.

Dr. H. J. Nichols, U. S. Army, said that those present were most fortunate in hearing Dr. Noguchi speak upon this subject, one in which he was both originator and chief exponent. Some of the most important original work in medical science had in recent years been contributed by Dr. Noguchi, possibly the most important contribution being the most recent, viz: the cultivation of the spirochaeta pallida.

In the army work he, with Capt. Craig, had been interested in establishing a test for the cure of syphilis. They had adopted the following tentative rule as indicative of a cure: a negative Wassermann after a year without treatment and free of all symptoms. Experience had led them to modify the rule to the following: after a year free of treatment and free of symptoms, there should be negative Wassermann, negative luetin and negative provocative Wassermann. The modification was prompted by experience with four soldiers who complied with the first named tentative rule, viz: negative Wassermann after a year or more free of treatment and symptoms, but who reacted to the luetin and provocative Wassermann tests thus:

Soldier.	Time free of treatment.	Wassermann.	Luetin.	Provoc. Wassermann.
1	14 months.	Neg.	Plus.	Plus.
2	15 months.	Neg.	Plus.	Plus.
3	17 months.	Neg.	Plus.	Plus.
4	19 months.	Neg.	Plus.	Plus.

A second series of soldiers was tested out with the following result:

Soldier.	Time free of treatment.	Wassermann.	Luetin.	Provoc. Wassermann.
1	16 months.	Neg.	Neg.	Neg.
2	21 months.	Neg.	Neg.	Neg.
3	24 months.	Neg.	Neg.	Neg.
4	24 months.	Neg.	Neg.	Neg.

He would regard this second series of soldiers as definitely cured of syphilis; the final test would be the ability to procreate healthy offspring.

In two instances results were obtained for which he had no explanation to offer at present; two soldiers free of symptoms and without treatment for 19 and 24 months respectively, gave first, a negative Wassermann; second, a negative luetin; and third, a positive provocative Wassermann.

He believed that the luetin reaction was better than the ordinary Wassermann reaction in the determination of a cure of syphilis; it is no better than the provocative Wassermann, but it is much easier.

He desired to call attention to one of Dr. Noguchi's most recent achievements, reference to which had been modestly made in Dr. Noguchi's remarks, viz: the demonstration of the spirochaeta pallida in the brains of general paretics.

Dr. H. G. Beyer, U. S. Navy, said that we know that the provocative Wassermann depends upon the sudden liberation in the blood of sufficient antibodies to provoke the reaction, this sudden liberation being occasioned by the destruction of spirochaetae by the administration of salvarsan. He asked Dr. Nichols if in the case of the two soldiers last mentioned there could have been introduced enough antibodies into their circulations by the luetin injections to give rise later to the Wassermann reaction.

At Dr. Nichols' request, **Dr. Noguchi** replied to Dr. Beyer, and in the negative, and said that the matter had been determined by the following experiments:

(a) Rabbit—killed spirochaetes; minus Wassermann; minus luetin.

(b) Rabbit—living spirochaetes (infection); minus Wassermann; minus luetin.

Dr. Hough had had little experience with the use of luetin since a series of forty cases already reported, and he had had no occasion to change his estimation of the value of the luetin reaction.

Dr. Hagner had watched Dr. Simpson's work with luetin in a number of cases at the Garfield Hospital, and was convinced of the great value of the reaction.

Dr. Kinyoun said that we should congratulate ourselves on the presence of Dr. Noguchi and on the presentation of the paper. Dr. Craig's remarks upon the occurrence of positive Wassermanns and positive luetin reactions in other diseases, and the confusion which arises from the problem as to whether this is a lack of specificity of the reactions or an indication of latent intercurrent syphilis led Dr. Kinyoun to speak of his experience in the post-mortem examination of cadavers at the Tuberculosis Hospital. He had been struck by the very extensive and marked arterial changes found in many of these cases, changes which are in every way similar to those found in syphilitics and alcoholics. At the Tuberculosis Hospital also the Wassermann reaction is found to be positive in a large number of cases. He had come to feel that the vascular changes which he had noticed are in fact the changes of syphilis and not due to tuberculosis. He had had little experience with the luetin reaction, but he could not escape the conviction that it is a reaction of great value.

Dr. H. H. Hazen commented on the cases cited by Capt. Nichols as giving positive provocative Wassermanns after the lapse of 17, 19 and 24 months of freedom from symptoms and treatment; this persistence of the disease needs to be emphasized in just this way. The effect of treatment varies in different

individuals; and in studying the blood of syphilitics Dr. Hazen had come to formulate for himself the following rule: those patients who have a low count of small mononuclear leucocytes do badly under treatment; those having a high count of small mononuclears do well.

Dr. Simpson said that there are bound to be differences of opinion about the specificity of the Wassermann reaction; and the facts mentioned in the paper, the discovery that the reaction may be induced with antigen from normal tissue, and that it is not necessary to obtain the antigen from the liver of a syphilitic fetus, according to the original idea of Wassermann, and that the reaction is found in other diseases than syphilis; these facts tend to discredit the specificity of the test. His advocacy of the use of the luetin reaction is based on the ease with which the test may be made and on the absolute specificity of the reaction.

LOCALIZATION OF INTRACRANIAL NEOPLASM AFTER DECOMPRESSION.*

By Tom A. Williams, M. B., C. M., Edin.,

Washington, D. C.

A girl of 16 was referred by Dr. Perrie of McKendrie, Md., Dec. 17, 1912. She had suffered from paroxysmal headache and pain in the neck since summer; latterly the pain had been nearly constant. There had been vomiting, diplopia, dizziness without falling, jerking of the limbs and great asthenia. Adenoids had been removed in October, and enlarged glands from the neck in November.

Examination showed mental hebetude, slight increase of deep reflexes, a doubtful plantar reflex, some impairment of diadocokinesis, more on the left, slight diminution of motility of the left palate and face, and complete paralysis of the left external rectus. Sensibility was intact, but there was tinnitus in the left ear. There was no dyschromotopsia. The pupils were somewhat dilated, but reacted briskly to light. Retinal arteries were diminished and the veins increased in caliber; the disc was not swollen. The mother stated that the girl had sometimes complained of absence of sensation on the right side.

On December 23 the retinal veins were still larger and there was a papiloedema of 3 dioptres. The pupils reacted less to light. The headache was intense. There were, however, no

* Read before the Medical Society, January 22, 1913.

signs of meningeal irritation by either the Kernig or Brudzinski tests.

Dr. Wellington, after consultation, decompressed the temporal region on December 24. The papiloedema and headaches disappeared, but returned in the middle of January.

January 17 *examination.* No papiloedema, nor enlargement of veins. Deep reflexes exaggerated especially on the left. Palate reflexes feeble. Sternutatory reflex absent.

Sensibility.—Slight deafness in the right ear, pain in the right ear and malar region.

Motility.—Face as before, tongue protruded to right with some right hemiatrophy. Jaw protruded to right. Bite equal. Right lateral mouth movement defective. No vocal paralysis nor laryngeal deviation on swallowing. Left platysma weak, neck awry, wasted left sternomastoid. Falls on leaning backwards; no rigidity.

The *diagnosis* made was cerebellopontine angle growth of nature undetermined. It was believed to be on the right side because of the paralysis of the right side of the tongue and right internal pterygoid muscle, in spite of the fact that it was the left face and left external rectus which were impaired, and that the tinnitus had been in the left ear. The history of other symptoms was too scanty to be given much weight, so that we were not positive on which side the growth was situated, as either set of symptoms might have been due to effects of distant pressure. This is notoriously common as regards the abducens nerve.

Since the report, exposure of the cerebellopontine regions was undertaken by Dr. Wellington; but no growth was found during a long exploration, which, however, did not give complete access. The subjective symptoms have all disappeared, although the jaw and tongue still deviate to the right and the left abducens has not recovered its function. The motility of the face has improved and the reflexes are less exaggerated. A further report we hope to make.

Dr. Wellington was glad to see again this very interesting patient; he had been associated in a surgical way with Dr. Williams in the care of this girl during her former residence in Garfield Hospital. The decompression operation had been of great benefit to her at that time; but it is evident that her condition has progressed very unfavorably.

Dr. Williams said that among the many interesting features of this case, one of the most important was the behavior of certain localizing symptoms. During the early part of the clinical study of the case there had been, in addition to the general symptoms of brain tumor, signs which pointed to the location of the

new growth in the *left* side of the posterior fossa; now, however, with the progress of the condition, the signs point rather to the location of the growth of in the *right* side of the posterior fossa; thus demonstrating how cautious we must be in interpreting as localizing, such sign as abducens palsy, which may be produced by pressure of a growth, transmitted through the cerebral mass, or by the dragging on the attachments of the nerve by a deformed brain stem.

VACCINE TREATMENT OF TYPHOID FEVER.—REPORT OF CASES. (Author's Abstract.)*

By B. M. Randolph, M. D.,

Washington, D. C.

Six cases of severe typhoid fever were treated by increasing doses of killed cultures of typhoid bacilli. They became afebrile in from nine to eighteen days from the institution of the treatment. The dosage employed was from 200 million to 1,000 million bacilli; the interval three days; in one case two days.

Two desperate advanced cases, one with double pneumonia, were uninfluenced by the treatment, and died. One case in which vaccine was begun, began to defervesce, and on suspension of treatment suffered a relapse. The relapse quickly terminated on resumption of the treatment. One case illustrates an ordinary relapse cut short by the vaccine.

The author has the impression that the vaccine, as used above, has a beneficial effect in typhoid, and that this effect is the better the earlier its use is begun. An important fact, determined by this investigation, is that patients suffer less local and constitutional reaction in the height of the disease than in the defervescence. Routine blood culture is recommended to replace the Widal test as a means of early diagnosis.

Dr. F. F. Russell, Major U. S. Army, was much interested in the paper, as he had been interested in Dr. Randolph's work for the past two years. The first year's work had served to convince Dr. Russell and others as to the propriety of the use of vaccine in the treatment of typhoid fever. Dr. Randolph's series of cases is small, but the way in which the work has been conducted makes the series of the utmost value. We are still in doubt as to when, how much, and what sort of vaccine to give, and this is because of the lack of uniformity in the methods of work pursued by those who have been investigating this matter. Dr. Randolph had used throughout his series of cases one vac-

* Read before the Medical Society February 5, 1913.

cine, made from an old, avirulent organism, producing little toxin; thus he has been enabled definitely to answer some questions, such as follow: That nothing less than a third of a billion organisms at a dose is of any use; that the intervals of dosage should be two or three days. These two facts are of decided value as additions to our knowledge.

The importance of an early diagnosis is an old story to us, but we do not act upon our knowledge. In from 85 per cent to 100 per cent. of all cases, blood cultures will establish the diagnosis from the first to the fifth day; and such cultures may be made with the greatest ease if the technic is understood. The necessity of early diagnosis becomes of greater importance, because Dr. Randolph has demonstrated that if we are to accomplish good with vaccines they must be administered early.

Dr. A. F. A. King asked if the dose of the vaccine may be too large, or if there is anything to indicate whether the use of larger doses of vaccine may produce better results.

Dr. Randolph replied that the largest dose ever given, so far as he knew, was one billion; such doses have been given a number of times with no bad effects, but not as the initial dose.

As a result of his own experience he feels definitely impressed with the fact that there is less local and general reaction to vaccine in the height of the disease than there is late in the fever, in relapse, or when used for prophylaxis.

REPORT OF THE SECTION ON OPHTHALMOLOGY, OTOLOGY, RHINOLOGY AND LARYNGOLOGY FOR 1912.

The last report of the Section on Ophthalmology, Otology, Rhinology and Laryngology detailed the steps taken in organizing the section and also submitted a tentative program for the year 1912. This report was accepted by the parent society. The Section now submits a report of the work actually done during the year 1912, and also a tentative program for the year 1913.

The Section has had a healthy growth, and the interest and enthusiasm manifested by those attending the meetings demonstrates the need of a section for these special branches of medicine under the jurisdiction of the Medical Society of the District of Columbia and divorced from social features. Members of the General Society have attended many of the meetings of the Section. The Section not only calls attention to the by-laws of the Medical Society giving every member the right to attend the meetings of any section, but it also cordially invites all members of the Society to be present at its meetings and take part in the discussions.

The Section takes this opportunity to again publicly thank the Faculty and particularly the Dean, Dr. George M. Kober, of the Georgetown Medical School, for their courtesy in giving the use of the library free of cost for the meetings of the Section.

WORK OF THE SECTION DURING THE YEAR 1912.

Dr. Rench reported a case of Suppuration of the Antrum following an unnecessary dental operation.

Dr. Dufour reported a case of Atrophic Rhinitis which was cured by an intercurrent attack of typhoid fever.

Dr. Rench read a paper on "Impaired hearing in relation to the pharynx, nose and naso-pharynx."

Dr. Oscar Wilkinson presented a case of Central Chorioiditis, and a case of Loss of vision from excessive use of tobacco.

Dr. Heitmuller presented a case of Acute Glaucoma resulting from a new formation in the vitreous chamber. Dr. Dufour enucleated the eye.

Dr. Miller read a paper on "Refractive errors and their correction."

Dr. Charles W. Richardson read a paper on "Tonsillectomy and its complications."

Capt. Davis reported a case of Opacities of the Cornea treated with Dionin.

Dr. Miller reported a case of Specific Ulcer of the Pharynx without Spirochaetae and with negative Wassermann.

Dr. Dufour read a paper on "Rheumatic diseases of the Eye and Throat."

Dr. William H. Wilmer read a paper on the "Relation of the vascular system to certain eye diseases."

Dr. Bennett read a paper on the "Prognostic value of the Rinne-Weber Schwaback test."

Dr. Wilkinson read a paper on "Some unusual ocular lesions due to pregnancy," and presented a case of Ruptured Chorioid, a case of Dislocated Lens, and a case of Excision of the Lachrymal Sac.

Dr. Billard read a paper on "Phlyctenular Conjunctivitis."

The following officers were elected in December, 1912, to serve for the year 1913:

Chairman, William Holland Wilmer; Vice-Chairman, O. A. M. McKimmie; Secretary, C. R. Dufour; Treasurer, V. B. Rench; Executive Committee, Drs. Dye, Davis and Wilkinson, together with the Chairman and Secretary.

The following is a tentative program for the year 1913:

In conformity with a motion of Dr. J. J. Richardson two papers will be read at each meeting, one on the eye and the other on the nose, ear and throat.

Feb. 11, '13.—G. H. Heitmuller, The eye; Reginald R. Walker, The ear, nose and throat.

Mar. 12.—Before the General Society.—Hiram Woods of Baltimore, The eye; J. J. Richardson, The ear, nose and throat.

April 8.—W. S. Newell, The eye; Virginius Dabney, The ear, nose and throat.

May 13.—C. R. Dufour, The eye; V. B. Rench, Ear, nose and throat.

Oct. 14.—H. A. Polkinhorn, The eye; O. A. M. McKimmie, Ear, nose and throat.

Nov. 12.—Before the General Society, at the Army Medical Museum.—Capt. W. T. Davis, The eye.

Dec. 9.—F. M. Chisolm, The eye; Walter A. Wells, Ear, nose and throat.

Jan. 13, '14.—S. B. Muncaster, The eye; A. B. Bennett, Jr., Ear, nose and throat.

REPORT OF COMMITTEE ON PUBLICATION FOR 1912.

The volume of the WASHINGTON MEDICAL ANNALS for the year 1912, i. e., Volume XI, consisted of five numbers instead of six, in compliance with the order of the Society of February 14, 1912, that the volume of the publication should coincide with the calendar year.

The volume comprises 277 pages of text and 8 of index, a total of 285 pages, or an average of 55 pages to each number.

For the period covered by its five issues the volume contains papers and abstracts of papers read or cases or abstracts of cases reported to the Society by the following members: W. P. Carr (two), V. Dabney, T. A. Groover, H. H. Hazen (two), D. P. Hickling, L. M. Hynson, W. A. Jack, H. H. Kerr (two), A. F. A. King, S. R. Lafora, D. S. Lamb (six), Frank Leech, J. C. McGuire, J. F. Moran, J. D. Morgan, R. B. Randolph (two), E. H. Reede, C. W. Richardson (two), P. S. Roy (two), G. T. Vaughan (two), Oscar Wilkinson, T. A. Williams (four), W. H. Wilmer.

Besides the original papers and cases reported, or their abstracts, the volume also contains the Proceedings of the Society, which is a complete and very handy reference; the names of the officers and programs of the work of the other medical societies in the District; lists of papers published by members of the Society elsewhere than in the ANNALS, a few of these papers having been read before the Society, but the most of them either not read or read elsewhere; personal notes of members; memorials to deceased members, Drs. J. R. Bromwell, H. P. Deale, H. S. Medford, J. H. Musser, H. J. Rhett, D. B. Street and J. R. Tryon, and other things that need not here be enumerated.

The fact that some journals will furnish illustrations and also reprints without charge to the authors of papers is an inducement to our members to publish elsewhere than in the ANNALS. The Committee on Publication is prohibited from affording the facilities named.

The expense of publication in 1912 was $850.50; received from advertisements, $186.00; net cost, $664.50.

FIRST ANNUAL REPORT OF THE COMMITTEE ON PUBLIC INSTRUCTION IN MEDICAL MATTERS.*

To the Medical Society of the District of Columbia:

The Committee on Public Instruction in Medical Matters has the honor to offer the following report:

HISTORY.—In November, 1908, Dr. Thomas C. Smith offered a resolution providing for a committee on public instruction in medical matters. It failed of adoption. Three years later, on October 4, 1911, on motion of Dr. Tom A. Williams, the President of the Society appointed a committee of three to "devise and report to the Society a plan for utilizing the resources of the Society for the proper and authoritative education of the public." Drs. Williams, Barnes and Wells were appointed. At the next meeting of the Society this committee reported three plans for consideration of the Society. (See ANNALS, Nov., 1911, page 275.) On Wednesday, Jan. 27, 1912, Dr. Balloch offered resolutions providing that the Committee on Public Instruction in Medical Matters be made a "permanent committee to disseminate accurate information concerning the nature and prevention of disease and the general welfare of the people along lines outlined by the Committee of the American Medical Association," and providing that the local chairman of the Committee on Public Health Education be added as a member of the Committee on Public Instruction in Medical Matters (ANNALS, March, 1912, page 64). On January 24, the names of Drs. Randolph and Mallory were added to the committee.

WORK.—The committee has undertaken three kinds of educational work: I. Public health lectures; II. Publication of articles in the lay press; III. Helping the community in sane organization of hygienic endeavor, *e. g.*, the organization of a society for social hygiene for the prevention of venereal diseases.

PUBLIC HEALTH LECTURES.—Prior to the organization of this committee the Woman's Clinic, in coöperation with the Public Health Education Committee of the American Medical Association, was filling the demand for public health lectures before

* Reported to the Society January 8, 1913.

particular organizations. Your committee, therefore, adopted the policy of arranging for lectures for the general public only. These lectures were given at the Public Library by men in government positions or by physicians from outside the District. Eight lectures and two symposiums were given. The average attendance was 70. The good done by these lectures is not to be measured merely by the numbers in actual attendance. The lectures were reported in the papers, some of them receiving over half a column notice. The cost of giving these ten lectures was $33.00.

The lectures were given by Surgeon General Stokes of the Navy, Drs. Bigelow and Kebler of the Bureau of Chemistry, Drs. Stimson, Lumsden, Warren and Prof. Stiles of the Public Health and Marine Hospital Service, Dr. Prince A. Morrow of New York City, and Dr. Harnsberger of Virginia. The subjects discussed were: "Occupation Diseases," "Pure and adulterated foods," "Patent medicines and nostrums," "The mad dog and its bite," "Prevention of typhoid fever," "Open-air schools for the tuberculosis child," "Hookworm disease," and "The need for sanitary and moral prophylaxis."

Owing to the feeling on the part of the Medical Society that the attendance on these lectures did not warrant the expense, your committee decided to limit its lecture work for the season of 1912 and 1913 to assisting the Council of the American Medical Association in its effort to conduct a campaign of public health education. The committee has, therefore, caused to be printed and mailed to all clubs, churches and other organizations likely to desire a public health lecture, a copy of the following circular.

"Medical Society of the District of Columbia.—*Lectures and Demonstrations Upon Hygiene and Medical Matters As They Affect the Public.*—The Medical Society of the District of Columbia by means of the organization effected by the American Medical Association, by whom expenses are paid, is now in a position to offer the services of distinguished speakers from out of town to woman's clubs, men's clubs, fraternal societies, neighborhood or citizens associations, commercial bodies, school teachers or other suitable organizations which desire matters concerning physical or psychological personal welfare to be placed before them in an authoritative and attractive manner.

"The conditions are that over four weeks' notice be given, that a suitable hall be furnished and a sufficient audience guaranteed.

"The speakers obtainable are:

"*Virginia.*—Dr. Ennion G. Williams, Richmond, Commissioner of Health for the State of Virginia. He will fill six appointments between Oct. 1, 1912, and May 1, 1913, speaking on public health topics.

"Dr. Allen W. Freeman, Richmond, Assistant Commissioner

of Health of Virginia. He will fill six appointments between Oct. 1, 1912, and May 1, 1913, speaking on "The Farmer and His Health," "The World of Little Things," "The Romance of Modern Medicine," "Ancient and Modern Plagues."

"Dr. Harry T. Marshall, University Professor of Pathology in the Medical Department of the University of Virginia. He will fill five appointments between Jan. 1, 1913, and May 1, 1913, speaking on "Infectious Diseases," "Tuberculosis," "Hook Worm," "The Social Evil" and "Pure Water and Sewage Disposal."

"*Pennsylvania.*—Dr. John B. Roberts, Philadelphia, who will fill six appointments between Oct. 1, 1912, and May 1, 1913.

"Dr. W. L. Rodman, Philadelphia, Professor of Surgery in the Medico-Chirurgical College of Philadelphia. He will fill six appointments between Oct. 1, 1912, and May 1, 1913, speaking on "Cancer," "Hydrophobia and Its Prevention."

"Dr. John G. Clark, Philadelphia, Professor of Gynecology in the Medical Department of the University of Pennsylvania. He will fill two appointments between Jan. 1, 1913, and May 1, 1913, giving illustrated stereopticon lectures on public health topics.

"Dr. J. F. Schamberg, Philadelphia, member of the Commission recently appointed by the Governor of Pennsylvania to investigate the value of vaccination. He will fill two appointments, speaking on "Smallpox and Vaccination."

"Dr. E. E. Montgomery, Philadelphia, Professor of Gynecology in Jefferson Medical College. He will fill six appointments between Oct. 1, 1912, and May 1, 1913, on any evening except Thursday. Dr. Montgomery will speak on "Preventive Medicine, What It Is and What It Has Accomplished," "Forty Years of Medical Progress," "Medical Problems Solved and Unsolved," "How Can the Public Health Be Improved?"

"Dr. George W. Wagoner, Johnstown, who will fill six appointments between Oct. 1, 1912, and May 1, 1913, speaking on public health topics.

"*Maryland.*—Dr. Thomas S. Cullen, Baltimore, Professor of Gynecology in the Johns Hopkins Medical School. He will fill six appointments between Oct. 1, 1912, and May 1, 1913.

"Dr. Lewellys F. Barker, Baltimore, Professor of Medicine in the Johns Hopkins Medical School. He will fill three appointments between Oct. 1, 1912, and May 1, 1913.

"*West Virginia.*—Dr. S. L. Jepson, Wheeling, editor of the *West Virginia Medical Journal.* He will fill four appointments between Oct. 1, 1912, and May 1, 1913, speaking on "Fakes, Fads and Faith Cures," "Sex Hygiene," "The Social Evil and Its Diseases."

"If any other speaker is desired, a longer notice may permit

of the engagement; but no assurance can be given that others than the above can be obtained.

"A form of application is enclosed, and a pamphlet upon the successful conduct of meetings of the kind will be furnished on application.

"Applications should be addressed to DR. TOM A. WILLIAMS, 1705 N St., or to DR. ELNORA FOLKMAR, 1839 Ontario Place."

During the recent International Congress of Hygiene the committee assisted in securing speakers for the course of popular health lectures. As a result twenty-two members of the Medical Society gave thirty-four of the lectures of that "highly successful program." And to the credit of the Medical Society the largest audiences, sometimes numbering over 500, were assembled to hear lectures given by our own members. And there appeared on that program men of both national and international reputation.

PUBLICATION OF ARTICLES IN THE LAY PRESS.—The Woman's Clinic, which had published several articles on Hygiene ceased, by agreement, to do so, when this committee was organized. This plan of publishing articles for the laity has received the approval of the American Medical Association.

List of some of the articles published by the Committee on Public Instruction in Medical Matters:*

Jan. 28, 1912. The Care of Children's Eyes.
Jan. 21. The Open Air School.
Feb. 4. Health of Child Joint Concern of the Parent and Teacher.
Feb. 18. Some Danger Signals in Infancy and Childhood.
Feb. 25. The Nose; Gateway of Life.
March 3. The Nose and Throat As a Gateway of Death.
March 31. Health Department Costs But Three Cents a Month.
April 7. Assails Social Evils.
April 14. Causes of Baldness.
April 28. The Ear.
May 5. Plain Facts About Psychotherapy.
May 19. The Danger of the Fly.
May 26. Spread of Plague in United States.
June 16. Bleeding and What It Signifies.
June 23. Unclean Food and Bad Cooking Causes of Illness in Man.
June 30. Extreme Fatigue Leads to Various Diseases.
July 7. Troubles of Digestion Common During Warm Weather May Be Avoided By Proper Precaution.
July 14. How to Prevent Typhoid While on Vacation.
July 21. Caring for the Baby.
July 28. How to Feed the Baby.
Aug. 14. How to Save the Baby.

* Nearly all these have been published in the *Herald*, most of them in the *Star*, and a considerable number in the *Post*. The *Times* used only small portions of a few, and the committee discontinued sending to that paper.

Aug. 18. What to Drink in Hot Weather.
Sept. 1. Incompetent Medical Advice Dangerous.
Sept. 8. Medical Progress Not Due to Irregulars.
Sept. 15. Much Disease Enters the Body Through the Mouth.
Sept. 22. Self-Drugging and Its Danger.
Oct. 6. Medical Inspection in Public Schools.
Oct. 13. Taking Care of the Eyes.
Oct. 27. Hygiene of Motherhood.
Nov. 3. Change of Attitude Toward Hospitals.
Nov. 10 and 17. Massage, Osteopathy.
Dec. 1. Diphtheria in a School Halted by Five Days' Individual Quarantine of Carriers.
Dec. 8. Value of Sex Hygiene.

Temporary suspension of publication by action of a meeting of Medical Society.

By request, duplicates were sent to the Committee on Public Health Education of the American Medical Association, and later a letter was received stating that the articles had been reprinted in the States of Utah, South Carolina, Missouri, Texas and New York. New York papers have also given credit for articles. The opportunity of making clear to the public the importance of medicine and doctors is not well realized by all our colleagues, or more support to such efforts would be given. As an antidote to charlatanry such articles are invaluable.

While the articles have not always been up to the standard that the committee would like, they are admitted to be the best series of newspaper medical articles yet published. At the exhibition of the International Congress on Medicine and Demography, the exhibit of these articles elicited much favorable comment from public health officials throughout the country. It is desirable that more physicians furnish articles explaining common errors of the laity about scientific medicine. Were there sufficient coöperation, the committee could always furnish the press with *timely* articles written in popular language.

Assistance Rendered to Other Organizations.—In May last the committee arranged for a conference of physicians, ministers, lawyers, social workers, teachers and others to discuss the advisability of organizing a society of social hygiene for the District of Columbia. Immediately following the conference the audience organized, and appointed Dr. Tom A. Williams Chairman of a committee of eleven, with power to appoint members. The committee appointed comprises Drs. Nichols, Hagner, Hardin, Folkmar and Williams; Mr. Cooper, General Secretary of the Y. M. C. A., Rev. Abram Simon, Messrs. J. Nota McGill and Logan Waller Page, and Madames Hunting Wilson and Henry Cleveland Perkins. A Society of Social Hygiene is now

organized under the presidency of Surgeon General Stokes, U. S. Navy.

FINANCE.—For the year 1912 the Medical Society appropriated $49.00 for the expenses of this committee. This was expended as follows: For janitor services at Public Library, $22; for operator of lantern, $11; for stationery and postage, $14.00; for typewriting, $3.00. Individual members of the committee have also spent money in carrying on the work.

CONCLUSION.—The committee, in presenting this, its first report, wishes to express appreciation for the coöperation it has had from scientists and physicians both in the furnishing of lectures and in the contribution of articles. Your committee regrets to add that at its meeting December 14, the following resolution was proposed and unanimously passed:

"Whereas, by a resolution recently passed by the Medical Society your committee was asked to submit to the Society before publication the articles to be used in the press;

"And whereas, upon submitting a number of such articles at the last meeting of the Society these were ordered to be laid on the table;

"And whereas, your committee finds that it is impracticable to carry on its work under these uncertainties, which hamper the influence of their efforts in behalf of the profession;

"Be it resolved, that this committee tender its resignation for the acceptance of the Medical Society.

Signed: TOM A. WILLIAMS,
Chairman.

REPORT OF THE TREASURER, DR. C. W. FRANZONI, FOR THE YEAR 1912.

The present is the fortieth annual report I will have submitted as Treasurer of the Medical Society, and it is a matter of congratulation that it is more satisfactory than it promised to be earlier in the year. While 1911 showed a very small balance in the Treasury, the coming year opens with sufficient funds to meet present needs if appropriations are not made too recklessly.

Nine members have been called from among us by the inexorable hand of death, a larger percentage than for many years:—J. R. Bromwell, Feb. 21; M. B. Strickler, June 17; H. B. Deale, June 19; John Kurtz, June 30; D. B. Street, Sept. 18; Henry Johns Rhett, Oct. 7; John E. Toner, Oct. 30; John E. Brackett, Dec. 2; A. E. Johnson, Dec. 5—two have resigned and three have been dropped for non-payment of dues.

There have been added to the roll of membership seventy-seven new names of those members of the old Medical Association who were not formerly affiliated with the Medical Society. There

are still many whom the Treasurer has not heard from, and who possibly in the near future will add their names to the roster before the time limit has expired. The Treasurer has only opened a ledger account with those who have accepted membership by paying the 1912 assessment and thus confirming the amalgamation act passed in July, 1911.

While the percentage of unpaid assessments is somewhat smaller than for some years, it would have been very gratifying to have reported a clear balance sheet at least for the year 1911; but I regret to say that there are still forty-five members owing for that year, and 135 for 1912.

Receipts for 1912: Cash on hand January 1, 1912, $261.90; from entrance fees, $86.00; assessments, 1909, $4.00; 1910, $232; 1911, $508; 1912, $1,328; 1913, $12.00; total, $2,084. From sales of History, $10.75; from associate members, $4; from assessments of members of late Medical Association, $80; interest on deposits in bank, at 2 per cent., $10.78; from advertising in the ANNALS, $186; subscriptions to the ANNALS, $2. Balance in Columbia Bank from Medical Association, $11.58. Total receipts, $2,737.58.

Expenditures: Stipend to Recording Secretary, $200; stipend to Treasurer, $200; rent of hall and lantern, $199; expenses of Corresponding Secretary, $415.89; of Recording Secretary, $6; of Treasurer, $25.75; publication of the ANNALS, $850.50; reprints for use of Medical Society, $68; expenses of Executive Committee, $15; expenses of Public Instruction Committee, $51.99; miscellaneous, $88.31. Total, $2,120.44.

STATEMENT OF ASSETS AND LIABILITIES OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA, DECEMBER 31, 1912.

Assets: Cash on hand Dec. 31, 1912, $616.57; furniture, estimated value, $91.50; unpaid assessments, $946.00; volumes of Medical History, estimated, $450.00; total, $2,104.07. Liabilities: Estimate of expenses of publishing WASHINGTON MEDICAL ANNALS, Volume XI, No. 6, $200.00; estimate for storing furniture of Society, $20.00; net assets, $1,884.07. Total collections for 1912, $2,475.11.

Dropped from membership for nonpayment of dues, 3; resigned, 2; died, 9. Present membership, 471.

PROCEEDINGS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Stated Meeting, Wednesday, January 8, 1913.—The President, Dr. W. P. Carr, presided ; about 70 members present.

Dr. Franzoni, Treasurer, made his 40th annual report. See p. 119.

The dues of Dr. Frank P. Vale were remitted in perpetuity.

The following candidates were elected active members :

Daniel LeRay Borden, George Washington University, 1912.
Joseph Arthur Jeffries, Jr., University of Virginia, 1903.
John Wm. Klemm, George Washington University, 1890.
John Hathaway Lindsey, University of Pennsylvania, 1899.
Leon A. Martel, University of Georgetown, 1908.
James Madison Moser, University of Georgetown, 1910.
J. Burr Pigott, University of Maryland, 1907.
Camp Stanley, George Washington University, 1906.
Wm. Joseph Stanton, University of Georgetown, 1911.
Walter Duvall Webb, College Physicians and Surgeons, N. Y. City, 1895.

For associate members, Guy L. Latimer, Hyattsville, Md., and James Robert Scott, Army Medical Museum.

Dr. Tom A. Williams, Chairman Committee on Public Instruction, submitted the annual report of the committee and presented the resignations of the members of the committee. The report was received (see page 114), the resignations not accepted, and the committee was authorized to continue its work according to the plan proposed by the committee. A report of the committee, containing papers intended for publication, which had been laid on the table by the Society, December 11, 1912, was returned to the committee for such disposition as it saw fit.

Applications of the following physicians for active membership were received and referred:

Leopold Glushak, University of Glasgow, 1912.
Frank Wheeler Hornbrook, Harvard Medical School, 1905.
Paul Bowen Alden Johnson, Univerity of Georgetown, 1905.
Richard A. Neale, University of Georgetown, 1870.
Thompson Flournoy Wickliffe, Tulane University, 1903.

A committee, Drs. S. S. Adams, J. D. Thomas and Kober, with the President *ex officio*, was appointed to arrange for a reception to be given to Senator Gallinger.

The President appointed the following members of committees :

Censors : Balloch, Skinner, A. B. Hooe, Reichelderfer and Heiberger.

Program : T. C. Smith, White, Roy, Sterling Ruffin and Wells.

Publication : D. S. Lamb, Pool, Donnally, Abbe and W. W. Wilkinson.

The following amendments to the by-laws were adopted:

Art. I, Sec. 1: For the words "Miscellaneous business" substitute "Unfinished business; 9, New business," and renumber the subsequent items.

Art. VII, Sec. 1: Strike out the words "Adopted May 7, 1903."

The following resolution was adopted: "That the Society express its hearty commendation of the recent efforts of the Postmaster General to detect and apprehend persons using the United States mails for the extension of one of the greatest vices of the age."

Wednesday, January 15.—The President, Dr. Carr, presided; about 70 members present.

The Chairman of the Executive Committee reported that the committee had organized with Dr. G. Wythe Cook as chairman and A. L. Hunt as secretary. The committee made report on which the Society took the following action:

Dr. J. D. Thomas was appointed as delegate from the Society to the annual meeting of the Association of American Medical Colleges in Chicago February 26.

The Secretary of the Society was instructed to notify delinquent members that unless dues are paid to the Treasurer by February 15, such members would be dropped from the roll.

The following resolution was ordered to be considered January 22:

"*Resolved*, That in the opinion of the Medical Society a well-equipped laboratory is essential to the efficiency of the Health Office of the District of Columbia. Such a laboratory should be prepared to (1) Examine food supplies, (2) Make biologic tests in appropriate cases for indigent persons, and also to make antitoxic and other sera and vaccines to be furnished at cost to those unable to pay the commercial prices for the same, (3) The Legislative Committee of the Society is instructed to carry into effect the provisions of the resolution."

The sum of $6.63 was appropriated to reimburse the Chairman of the Executive Committee for expenses incurred.

The resignation of Dr. Stephen H. Smith was accepted.

Dr. C. A. Pfender read a paper entitled The value of skiagraphy in the diagnosis of aneurysm of the abdominal aorta, and presented a patient with abdominal aneurysm, and skiagraphic plates of the case. Dr. Lemon showed plates of aneurysms of the thoracic aorta. Dr. D. S. Lamb showed three specimens of aneurysm of abdominal aorta. Discussed by Drs. Hynson, Claytor, Frankland, J. D. Thomas, Lamb and Pfender. See p. 91.

The specimens shown by Dr. Lamb were as follows, all three from soldiers. In each case the sac ruptured into the abdominal cavity and the man died from hemorrhage.

1. The anterior wall affected; the sac involved the celiac axis, the renal and suprarenal arteries and superior mesenteric; the latter being occluded and the blood supply to the intestines therefore largely cut off. The patient was 29 years old; had a pulsating tumor above and to the left of umbilicus; aneurysmal bruit heard. It is stated that the tumor appeared after the man had used extra exertions in lifting boxes.

2. In this case the posterior wall was affected and there was pressure erosion of the 1st and 2d lumbar vertebrae. Here also was a pulsating tumor in the umbilical region.

3. In this case also the posterior wall was involved and there was pressure erosion of the last thoracic and 1st lumbar vertebrae. The man had complained of pain in back and loins for several years.

Dr. J. D. Thomas reported a case of vegetative endocarditis of the pulmonary valve and showed the specimen. Discussed by Drs. Randolph, Macatee and Thomas.

Dr. D. S. Lamb presented specimens of perforating ulcer of duodenum with reports of the cases. Discussed by Drs. Hynson and Lamb. See p. 99.

Wednesday, January 22.—The President, Dr. Carr, presided; about 95 members present.

The Society appropriated $2 for expenses of the Treasurer.

Dr. Dufour, Secretary of the Section of Ophthalmology, Otology, Rhinology and Laryngology, presented the annual report of the Section, which was ordered to be filed. See p. 111.

The resolution in regard to the Health Office, assigned for consideration, was adopted. See Minutes January 15.

The resignations of Drs. J. W. Hodges, John Allen and Elzora Butler Allen were accepted.

Dr. T. A. Williams reported a case of intracranial new growth and presented the patient. Discussed by Drs. Wellington and Williams. See p. 108.

Dr. J. F. Mitchell read a paper on The surgical aspects of purpura hemorrhagica. Discussed by Drs. H. H. Hazen, E. B. Behrend, Claytor, Roy, Balloch and Mitchell.

Wednesday, January 29.—The President, Dr. Carr, presided; about 85 members present.

Dr. D. S. Lamb presented the annual report of the Committee on Publication, which was received, and the thanks of the Society tendered to the committee. See p. 113.

Dr. A. F. A. King read a paper entitled Another hypothesis as to the origin and prevention of cancer. Discussed by Drs. Carr, Willson, Werber and King. See p. 73.

Wednesday, February 5.—The President, Dr. Carr, presided; about 95 members present.

The Treasurer reported for the month of January, receipts, $216.00, disbursements, $30.63.

Dr. Cook, from the Executive Committee, reported that the accounts of the Treasurer had been examined and found correct; also recommending the following resolution: "That the President of the Society appoint a committee of three to formulate resolutions asking Congress to amend the law governing street traffic so as to exempt physicians from arrest when exceeding the speed limit when in response to emergency calls." The Society adopted the resolution, and Drs. Avery, Barton and Wood were appointed the committee.

The Executive Committee also recommended that the status of the members of the late Medical Association who became members of the present Medical Society be considered the same as that of the other members of the Medical Society. Also that the Committee on Public Instruction be made a standing committee, and be appointed annually by the President. All these recommendations were adopted by the Society.

The Society appropriated $158.75 for publication of the January number of the ANNALS and printing supplies for the Committee on Publication.

Dr. Jack presented two patients convalescing from extensive burns and reported the cases. Discussed by Drs. Balloch, Snyder, Atkinson, Carr, I. H. Lamb and Jack.

Dr. D. S. Lamb showed a series of syphilitic skulls from Mongolia, which had been obtained by Dr. A. Hrdlicka of the U. S. National Museum a few months before, while collecting ethnological materials. Dr. Hrdlicka stated that the disease was very prevalent among the Mongolians.

Dr. E. L. Morgan said that the evidence is certain that syphilis existed in China before the discovery of America; and there is no reason to doubt that it may have prevailed there from prehistoric times.

Dr. Abbe asked as to the degree of prevalence of syphilis of the skull in adults; his impression had been that the cranial bones are affected relatively infrequently. He had only recently seen such a case in an adult man; the patient denied luetic infection, but had persistent headache and areas of softening of the skull, with characteristic paronychia. What had been the experience of others as to the relative occurrence of syphilis of the skull and of the other bones?

Dr. Randolph read a paper on Vaccine therapy in typhoid fever. Discussed by Drs. F. F. Russell, A. F. A. King and Randolph. See p. 110.

Wednesday, February 12.—The President, Dr. Carr, presided.

Dr. C. A. Simpson read a paper on The luetin reaction in syphilis. Discussed by Dr. Hideyo Noguchi of the Rockefeller Institute; Dr. C. F. Craig, U. S. A.; Dr. H. J. Nichols, U. S.

A. ; Dr. H. G. Beyer, U. S. Navy ; Hough, F. R. Hagner, Kinyoun, H. H. Hazen and Simpson. See p. 100.

The Society extended its thanks to Dr. Noguchi for his presence and remarks in discussion.

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Truman Abbe, A. B , M. D , ... Stoneleigh Court.
W. W. Wilkinson, M. D., ... The Rochambeau.

Editorial.

History of the Medical Socety of the District of Columbia.—This book should be in the hands of every member of the Medical Society. The price is only $1.00, with 25 cents added if delivered in this city or sent by mail. Address Dr. C. W. Franzoni, 605 I Street, N. W. The books are in the custody of Dr. D. S. Lamb, at the Army Medical Museum.

Membership in the A. M. A.—A letter from the Secretary of the A. M. A. calls attention to the abstract of the address of Dr. Simmons to the Conference of State Secretaries, explaining the proposed plan to include all members of the State medical societies in the membership of the A. M. A., and making those who subscribe for the *Journal* and pay the yearly fee, Fellows of the Association. The Abstract was published in the A. M. A. Bulletin of Nov. 15, 1912, and in the *Journal A. M. A.*, March 8, 1913, page 762. The Judicial Council suggests republication in the journals of the State societies, but as most if not all the members of the Medical Society of the District of Columbia see the Journal of the A. M. A., it is thought by the Editor unnecessary to republish the abstract.

THE OTHER MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

Medical and Surgical Society of the District of Columbia.—President, H. P. Parker ; Vice President, D. P. Hickling ; Secretary and Treasurer, L. Eliot ; Recording Secretary, L. C.

Ecker; Executive Council, A. R. Shands, O. A. M. McKimmie, L. Eliot, E. P. Copeland and L. H. Reichelderfer. The program for the season is as follows:

Date.	*Place of Meeting.*	*Case History.*	*Essay.*
Apr. 3	Dr. Nevitt	Dr. Ecker	Dr. Walsh.
May 1	" Parker	" Sowers	" Atkinson.

THE WOMEN'S MEDICAL SOCIETY of the District of Columbia.—President, Mary Parsons; Vice President, Ida J. Heiberger; Recording Secretary and Treasurer, Ada R. Thomas; Corresponding Secretary, L. Tayler-Jones.

GALEN SOCIETY of the District of Columbia, 1912–1913; R. Lee Spire, President; Wm. H. Littlepage, Secretary-Treasurer.

1913.	*Place of Meeting.*	*Essayist.*
Apr. 21.	W. D. Tewksbury, 4200 Ga. Av.	Charles Wheatley: Rheumatism in children.
May 19.	Joseph B. Bogan, 606 Mass. Ave.	David W. Tastet: Infant feeding.
Oct. 20.	David W. Tastet, 2827 11th St.	Election of officers: Miscellaneous business.

MEDICAL HISTORY CLUB of Washington, D. C., 1912–1913. Officers: President, G. Wythe Cook; Vice President, W. W. Wilkinson; Secretary, H. W. Lawson, 1117 Vermont Avenue. Executive Committee: I. S. Stone, F. H. Garrison, B. M. Randolph and the officers. Members: Truman Abbe, Frank Baker, W. C. Borden, G. Wythe Cook, J. A. Foote, F. H. Garrison, Howard Hume, H. W. Lawson, G. Brown Miller, J. D. Morgan, J. B. Nichols, B. M. Randolph, C. W. Richardson, Philip S. Roy, Sterling Ruffin, I. S. Stone, Joseph Wall, W. W. Wilkinson.

Meetings:

Date.	*Essayist.*	*Host.*
Mar. 29.	Dr. Morgan, Sir Thomas Browne.	Dr. Foote, 1732 Twentieth Street.
Apr. 23.	Dr. Cook, History of medical ethics.	D. C. Medical Society, 1325 H St.

GEORGETOWN CLINICAL SOCIETY; twenty active members limited to graduates of the Medical Department of Georgetown University. Meets at the University Club on the second Tuesday of the month. J. Russell Verbrycke, Jr., President; John Foote, Vice President; Ralph LeComte, Secretary-Treasurer.

MEDICAL SOCIETY OF GEORGETOWN UNIVERSITY has a membership of 97 active members and meets on the second Saturday of the month at the Medical School. Officers: Wm. C. Gwynn, President; Geo. Wood, First Vice President; Ralph Hamilton, Recording Secretary; J. Russell Verbrycke, Jr., Corresponding Secretary.

THE HIPPOCRATES SOCIETY, membership limited to 25, with voluntary retired members after 10 years, meets on the second

Thursday of the month. Officers for the year are L. M. Hynson, President; Wm. Earl Clark, Vice President; J. Russell Verbrycke, Jr., Secretary-Treasurer.

Date.	*Place.*	*Essayist.*
Apr. 10	Dr. White, 911 16th Street	Dr. Clark.
May 10	Dr. Hynson, 1335 N Street	President's Address.

Society of Ophthalmologists and Otologists of Washington.—R. S. Lamb, President; J. J. Richardson, Vice President; A. B. Bennett, Jr., Secretary-Treasurer. Meets on the third Friday in each month from October to May, inclusive.

Clinical Society of Washington.—Composed of 25 active members besides retired members. Officers: C. M. Hammett, President; T. A. Groover, Vice President; W. E. Clark, Secretary-Treasurer; L. A. Johnson and J. D. Thomas, Censors.

Clinico-Pathological Society.—Active membership limited to 25. Inactive membership: those who have withdrawn from active membership for 15 years. A limited honorary membership of distinguished medical men. Meets on first and third Tuesdays from October to May, inclusive. Officers: W. G. Morgan, President; Sothoron Key and E. E. Morse, Vice Presidents; B. M. Randolph, Secretary and Treasurer.

The Freedmen's Hospital Medical Society meets on the third Tuesday of each month from October to May, inclusive. Its membership is composed of physicians connected with the Staff of the Hospital and the Medical Faculty of Howard Medical School. The present officers are A. M. Curtis, President; S. L. Carson, Vice President; C. A. Allen, Secretary-Treasurer; Committee on Program, E. A. Balloch, S. L. Carson and H. H. Hazen.

Therapeutic Society of the District of Columbia.—Meets at the G. W. School of Pharmacy, 808 I Street, N. W., on the first Saturday in each month. L. H. Taylor, President; S. R. Karpeles, Secretary.

The Washington Society of Nervous and Mental Diseases, jointly with the Neurological Section of the Medical and Chirurgical Faculty of Maryland, will hold a symposium on Cerebral Syphilis at the next monthly meeting, Thursday, March 20, at 8 P. M., at the new University Club. Members of the medical societies desiring to attend will kindly communicate with the President, Dr. Tom A. Williams, 1705 N Street, N. W., or the Secretary, Dr. Wm. H. Hough, Govt. Hosp. for the Insane, by March 17. The Washington Society of Nervous and Mental Diseases is in its sixth year and, although of limited membership, welcomes those physicians who are interested in neurology, psychiatry and psychopathology. There are no dues, and the members entertain the Society in turn.

SOCIETY OF SOCIAL HYGIENE, Washington, D. C.—President, Surgeon General Stokes, U. S. Navy; Secretary, Lt. Col. J. R. Kean, U. S. Army, Surgeon General's Office. The Society has four committees, namely: Education, Venereal Diseases, Protection of Women and Children, and Psychopathology. Yearly dues, $1.00. Persons desiring to become members should address Col. Kean and state to which committee they wish to be assigned.

THE SECRETARIES of the other Medical Societies of this District are reminded that the ANNALS will publish the schedules of their meetings.

NEW AND NONOFFICIAL REMEDIES. Price, cloth, $0.50; paper, $0.25; pp., 298. Chicago: AMERICAN MEDICAL ASSOCIATION, 1912.—This book contains descriptions and a statement of the actions and uses of all articles which have been examined and accepted by the Council on Pharmacy and Chemistry prior to Jan. 1, 1913. The work of the Council during its seven years of existence and the reports of the Propaganda Department of *The Journal A. M. A.* have convinced the physician that in the prescribing of proprietary remedies he must be careful in his selection of those which he directs for his patients. Nowhere else can the physician or the pharmacist turn for reliable, unbiased information concerning the new remedies. This book enables a physician to make such selection and the careful pharmacist to know the character of the remedies he dispenses.

THE WASHINGTON MEDICAL ANNALS.—Back numbers.—Members of the Society who have back numbers of the ANNALS, and do not intend to preserve them, are requested to send them to the Chairman of the Publication Committee. Requests for such numbers are frequently received. Address Dr. D. S. Lamb, Army Medical Museum. Dr. E. L. Morgan is thanked for his interest in this matter.

DR. C. L. G. ANDERSON has written a book, Old Panama and Castilla del Oro, covering the discovery, etc., of Panama and nearby territories; with maps and rare illustrations. The table of contents is quite attractive. The price is $5.00, delivered; and the book can be obtained from Dr. Anderson at 918 18th Street, N. W., this city.

"THE VISIT by a party of German physicians to the recent International Congress on Hygiene and Demography has proven that a well-managed travel-study party of physicians can make a trip through a foreign country in a far more pleasant and profitable manner, and at less expense, than can be done by traveling alone. Clinics can be arranged in advance, lectures prepared and visits made to the best hospitals and health resorts, with the assurance of a hearty welcome from the leading medical men of the

localities visited. For those unable to speak the languages of the countries on the Continent this disadvantage is reduced to a minimum, and the benefits of the trip correspondingly increased by traveling with such a party.

"The coming International Medical Congress, London, Aug. 6–12, 1913, gives a splendid opportunity for organizing an American tour of this sort and plans are now ready for a Physicians' Travel-Study Tour, leaving New York July 3d for the most important capitals and health resorts on the European Continent; Paris, Munich, Carlsbad, Marienbad, Dresden, Berlin, Nauheim, Wiesbaden, Cologne, Brussels, The Hague, Amsterdam, etc., ending with the week of the Congress in London.

"The plan of this tour has been seen and endorsed by Drs. A. Jacobi, T. C. Janeway, Ch. G. Kerley, O. G. T. Kiliani, L. R. Williams, Wisner R. Townsend and others. Physicians interested in such a trip should write for further and more detailed information to RICHARD KOVACS, M. D., 236 East 69th Street, N. Y. City."

THE AMERICAN SURGICAL ASSOCIATION has appointed a committee consisting of Drs. Wm. L. Estes, South Bethlehem, Pa.; Thomas W. Huntington, San Francisco, California; John B. Walker, New York City; Edward Martin, Philadelphia, and John B. Roberts, Chairman, 313 S. 17th Street, Philadelphia, to report on the Operative and non-operative of closed and open fractures of the long bones and the value of radiography in the study of these injuries. Surgeons who have published papers relating to this subject within the last ten years will confer a favor by sending two reprints to the chairman of the committee. If no reprints are available the titles and places of their publication are desired. John B. Roberts, Chairman, 313 S. 17th Street, Philadelphia.

MR. BOWERMAN, the Librarian of the Public Library, this city, wishes to make his set of the WASHINGTON MEDICAL ANNALS complete. To do this it will be necessary to supply him with the following numbers, namely: July and September, 1906; January and May, 1907. Will the members of the Society look over their copies and inform Dr. D. S. Lamb if they have any of the needed ones and can spare them?

THE CLEVELAND MEDICAL LIBRARY, in order to complete its set of the WASHINGTON MEDICAL ANNALS, needs copies of the following dates, namely: all of 1904 except January; January, March and July, 1905; all of 1906 except March; January and May, 1907; January, 1908; January and May, 1911. Members of the Society are requested to look over their files and, unless they wish to have them bound, it would be very desirable to complete the set desired. Copies may be sent to Dr. D. S. Lamb, at

the Army Medical Museum, who will forward them to the said library.

United States Public Health Service.—Examination of candidates for appointment in the service, April 7. Physicians desiring further information should address the Surgeon General, U. S. Public Health Service, Washington, D. C.

Municipal Sanitation.—A Summer Course on this subject will be given at Harvard Medical School, June 30 to August 9, 1913. Persons desiring further information should address Prof. G. C. Whipple, Pierce Hall, Harvard University, before June 15.

Prof. Oscar Oldberg, Dean of the School of Pharmacy, Northwestern University, Chicago, and formerly Dean of the National College of Pharmacy of Washington, D. C., died at Pasadena, Cal., February 27. Dr. Oldberg was instrumental in introducing into the service of the U. S. Government the use of the metric system of weights and measures. He was a member of the Committee on Revision of the Pharmacopoeia.

Dr. Francis W. Mead died suddenly at Vineyard Haven, Mass., January 18, 1913. Dr. Mead joined the Medical Society July 12, 1859; had graduated in medicine at Georgetown Medical College in 1858. He served as Surgeon to the Second District of Columbia Volunteers in the war of 1861–5. Afterwards he was in the Marine Hospital Service. In 1873 he was dropped from membership in the Society. See the History of the Society, page 264, and halftone 18.

Dr. John S. Billings, an Honorary member of this Society, died in New York City March 11. The action of the Society will appear in the May number of the Annals.

A Society for the Advancement of Clinical Study has recently been organized in New York City, the purpose of which is to maintain a bureau of information which will furnish to resident and visiting physicians definite information regarding the clinical facilities of the hospitals and laboratories of the greater city. For this purpose a bulletin board has been installed at the Academy of Medicine, 19 West 43d Street, in charge of a special clerk who will be on duty between the hours of nine and six to answer all telephone inquiries (Telephone 974 Bryant). The bulletin board will consist of two sections, on one of which will be posted, month by month, the regular clinics, medical and surgical, and also laboratory demonstrations, all of which are held at stated hours. The second section will include full announcements of daily operations and demonstrations of cases both medical and surgical, which as far as possible will be announced on the day preceding their performance. It is believed

that these facilities will afford physicians who are interested in observing particular operations, and operators or clinicians, an opportunity to obtain the desired end with the least trouble. It is hoped that by this means the large and unexcelled clinical facilities of New York City will be made more accessible to those who may desire to make use of them.

PEDIATRICS.—Dr. Clarence A. Rhodes, Atlanta, Ga., writes: "As you doubtless know, pediatrics is on a rather low plane here in the South, and as a true southerner I want to see this branch of medicine take a stand for itself in our midst. I have been in communication with Dr. Seale Harris, Secretary of the Southern Medical Association, in reference to getting together on this subject, and he advises me that we could have a pediatric session at our next meeting if enough men would show interest in this subject and would read papers, thus giving us an entering wedge towards forming a pediatric section of the Southern Medical Association, which I think would mean much to our profession, and upbuilding of this important branch of medicine. I would appreciate your interest in this matter by sending me the names of those physicians in your District who are most interested in this branch of medicine and would help to get this movement started. Try to stimulate some of your members to take up this work and help shove it along."

THE LISTER MEMORIAL.—Dr. W. W. Keen, of 1729 Chestnut Street, Philadelphia, writes: "In the *Journal of the American Medical Association* for January 25, p. 308, was published a letter from myself asking for contributions toward the Lister Memorial. I have received up to the present time from one gentleman a subscription of $10. This is the entire response of the surgeons of America to an appeal for the man who has done more for surgery than any other man since the days of John Hunter. Would you not be willing to stir up your friends over the country and see if we cannot send a handsome amount to the gentleman in charge of the Memorial scheme? I should be ashamed to send $10 as the sum total of the subscriptions beside my own ($25), sent some time ago."

DIABETES MELLITUS.—Dr. Wm. E. Fitch, 355 West 145th Street, New York City, writes: "I am undertaking an exhaustive research into the pathology, etiology and dieto-therapy of diabetes mellitus. I am very anxious to hear from every physician in the United States who has had a case under treatment, or who has had any experience in the treatment of this malady. Von Noorden says 'the best treatment for the diabetic is the *food* containing the *greatest* amount of *starch* which the patient can bear without harm.' If any physician who reads this has similar or contrary experience and would take the trouble to write me, I

would esteem it a special privilege to hear from him, if only a postal card."

THE SURGEON GENERAL OF THE PUBLIC HEALTH SERVICE sends the following information :

The Tenth Annual Conference of State and Territorial Health Authorities with the United States Public Health Service, held in Washington, June 1, 1912, adopted a resolution the purpose of which was to put into operation a coöperative plan by which information of the current occurrence and geographic distribution of communicable diseases would be available to the respective health authorities. The main features of the resolution were provisions (1) for the telegraphic report to the Public Health Service of the occurrence of cases of certain dangerous, epidemic diseases, exotic or of unusual occurrence; (2) of outbreaks or epidemics of the ordinary epidemic diseases, and (3) for the monthly report by mail of other notifiable diseases. The purpose is that the Bureau of the Public Health Service shall serve as a clearing house for this information and shall publish it currently in the Public Health Reports. In the case of the occurrence of exotic or dangerous diseases, or of unusual outbreaks, the information will be telegraphed to the various State health authorities from the Bureau.

Blanks have been prepared for the making of the reports to be forwarded by mail, and have been distributed to the health authorities of the various States, who have been asked to what extent it will be practicable for them to coöperate in the making of these reports.

The matter of being able to know of the occurrence and distribution of disease is one of paramount importance to public health work. Public health work is in reality nothing more than the prevention of the occurrence and spread of disease. The occurrence or spread of disease cannot be prevented unless the location and frequency of foci of infection, or of the conditions which produce morbidity, are known. This cannot be known unless the occurrence of disease is reported. Without a knowledge of the prevalence and geographic distribution of disease there can be no rational public health work, and the only reliable and accurate way by which this knowledge can be acquired is the notification of cases of disease.

NEW YORK SKIN AND CANCER HOSPITAL, Second Avenue, cor. 19th Street.—The Governors of the New York Skin and Cancer Hospital announce the following course of clinical lectures and demonstrations in the out-patient hall of the hospital, on the following Wednesday afternoons, at 4.15 o'clock, on surgical diseases of the skin : April 2, 9, 16, 23, 30 and May 7, Dr. Bulkley. Surgical treatment of malignant diseases, May 14, Dr. Bainbridge.

Each lecture will be illustrated by cases, models, colored plates, photographs, etc. The lectures will be free to the medical profession, on the presentation of their professional cards. (Signed),

CHARLES C. MARSHALL, *Chairman of Executive Committee.*

THE AMERICAN ASSOCIATION OF ORIFICIAL SURGEONS.—The spring clinic of the American Association of Orificial Surgeons will be held in the Surgical Amphitheater of Hering Medical College, corner of Wood and York Streets, Chicago, Ill., April 23–4–5–6. Dr. E. H. Pratt, A. M., M. D., LL. D., and assistants will operate on clinical patients, demonstrating the fundamental principles of Orificial Surgery as applied in the treatment of chronic diseases and as an adjunct to major surgery in general.

On April 26th, the fourth and last day of the clinic, Dr. Pratt and assistants will demonstrate other therapeutic measures which have been recently introduced to the medical profession: including abdominal calisthenics, manual therapeutics, high-frequency treatment of internal organs, spondylotherapy and new hydrotherapeutic measures. These measures will be introduced and demonstrated, not as curative measures within themselves alone, but as adjuncts to the ordinary armamentarium of the physician.

Tuition to this clinical course is free to all practicing physicians, medical students and nurses.

Physicians are invited to bring clinical cases for operation. No operating fee will be charged. Excellent hospital accommodations will be provided. Opportunity will be presented for the physicians bringing clinical cases to assist personally in the operation.

The clinic headquarters will be the Hotel La Salle, where reservations may be made in advance. For further information address the Secretary of the Association,

W. A. GUILD, Des Moines, Iowa."

"SURGERY, GYNECOLOGY AND OBSTETRICS" has entered into agreements with the editors and publisher of the new *Zentralblatt for Surgery* and the new *Zentralblatt for Gynecology*, which have been authorized by the German Surgical and the German Gynecological Congresses, respectively, and with the editors and publishers of the *Journal de Chirurgie*, for the purpose of establishing an International Abstract of Surgery, which will be a supplementary journal to *Surgery, Gynecology and Obstetrics*. The journal in its completeness will possess the following scope:

1. A comprehensive index of surgery from all sources, arranged anatomically under departments, giving the author's name, subject of communication and the name of the journal from which the article is abstracted.

2. An abstract of the surgical literature from all countries, prepared by the combined efforts of our French and German

contemporaries and our own staff for Great Britain and America. This will appear under departments and will include abstracts and reviews of (*a*) original articles, (*b*) monographs, (*c*) books and (*d*) clinics.

THE MANITOU SPRINGS HOT-IRON CLUB, of Manitou, Colorado, invites attention to the health report of that place for the last five years. H. J. Ross is the Secretary of the Club. The annual death rate among residents was 4½ per thousand. Nephritic diseases constituted less than one-fourth per cent. No case of tuberculosis originated in Manitou. The only cases of malaria were imported or were recrudescences after arrival. The only cases of typhoid fever were imported. No deaths from contagious diseases.

REVIEWS.

GOLDEN RULES OF SURGERY.—BERNAYS AND COUGHLIN. Price $2.50. St. Louis, C. V. MOSBY CO., 1913.

This is an elaboration of the well-known little work by the late Dr. Bernays. It states in a concise and incisive way the surgical axioms that should be—but not always are—familiar to every surgeon. To the inexperienced or occasional operator its cautions and reminders should be invaluable, or perhaps one should say that the patients of such an operator would profit vastly by his reading of this book. The style is crisp and forceful and the book is very readable, containing, as it does, much valuable surgical lore in a compact form. It may be summed up as an epitome of what surgeons have learned from the mistakes they have made, and it may be read with profit by all, except those that never make mistakes.—EDWARD A. BALLOCH.

HANDBOOK OF DISEASES OF THE RECTUM. By LOUIS J. HIRSCHMAN, M. D., President of the American Proctologic Society, Lecturer on Rectal Surgery and Clinical Professor of Proctology, Detroit College of Medicine. Revised and rewritten, second edition, 338 pages, royal octavo, 172 illustrations, including four colored plates. Price, $4.00.

In reviewing the first edition of this book (ANNALS, Vol. VIII, No. 3), the present writer commended it as being a safe guide to the examination, diagnosis and treatment of the diseases of the rectum and sigmoid and as being especially valuable to the general practitioner.

The same commendation can be extended to the second edition. If for no other reason, the work is valuable in that it shows that, with a little care and consideration and by the use of local anesthetics a large proportion of this class of cases may be treated

by the physician in his office and thus kept out of the hands of the advertising quack and charlatan.

The numerous well-executed illustrations add much to the value of the work.—EDWARD A. BALLOCH.

THE SOLUTION OF THE MILK PROBLEM. By GEORGE LLOYD MAGRUDER, A. M., M. D., Emeritus Professer of Materia Medica and Therapeutics, School of Medicine, Georgetown University, Washington, D. C. 8vo., pp. 32; 8 illustrations. R. BERESFORD, 605 F Street, N. W., Washington, D. C.

It is a genuine pleasure to note that one of the oldest and most esteemed members of the Medical Society has made an important contribution to the solution of the Milk Problem.

The production of pure milk has been considered one of the most important sanitary problems of the 20th century, and Dr. Magruder has shown in a very convincing manner why safe milk is necessary and how it can be secured. In the light of our knowledge of milk-borne diseases we certainly can indorse the following aphorisms:

"Milk must be produced by healthy cows.

"Milk must be clean. Germs are few in clean milk.

"Milk must be promptly cooled and kept cold. The growth of germs is checked by cold.

"Milk must be properly pasteurized, promptly cooled and covered until delivered to the consumer.

"These conditions secure absolutely safe milk.

"These conditions without pasteurization secure reasonably safe milk.

"Contaminated milk is many more times dangerous than contaminated water, because disease germs which would starve in water rapidly multiply in milk.

"Safe milk saves babies and diminishes the prevalence of tuberculosis, typhoid fever, diphtheria, septic sore throat and other diseases."

The truth of the last aphorism was recognized as early as 1894 by a committee of the Medical Soeiety, of which Dr. Magruder was chairman, in a report on typhoid fever in the District of Columbia, when it recommended: "Careful inspection of all dairies in the District from which our milk supply is drawn and the enactment of a law by which no milk shall be sold in the District without a permit from the Health Office. The inspection should cover an examination at the dairies of all possible sources of infection, including the water supply."

A law regulating the sale of milk and providing for the establishment of dairy and dairy-farm inspection was enacted March 2, 1895.

During the five-year period from 1885–1889 the average annual death rate from diarrhoea and inflammation of the bowels among

children under 2 years of age was 168 per 100,000. During the next period, 1890–1894, the death rate rose to 175. During the period 1895–1899, beginning with the enactment of the milk law, the rate dropped to 135, and has since steadily decreased until last year it was only 53.

These facts, as also the reduction in the mortality from typhoid fever from 80 per 100,000 in 1890 to 22 in 1912, are strikingly shown by diagrams, and it is noteworthy that in both diseases the most abrupt decrease occurred after the enactment of the milk law in 1895 and the Report of the Washington Milk Conference in 1907.

The author also refers very appreciatively to Mr. Berliner's Bulletins, in which he pointed out ever since 1901 in two Sunday papers the dangers of raw milk and urged home pasteurization or the scalding of milk.

Dr. Magruder writes that the appalling prevalence of typhoid fever and high mortality of infants, as shown by the census of 1890, prompted him "to enlist in the campaign for pure milk and pure water"—an example well worthy of emulation, and deserving of all the praise so generously accorded him by every critic of his contribution to the solution of the Milk Problem. It falls to the lot of but few men to see the fruition of their unselfish labors, and Dr. Magruder certainly deserves the gratitude of the profession and the public for his work in the sanitation of the National Capital.—George M. Kober.

RECENT PUBLICATIONS OF PHYSICIANS OF THE DISTRICT OF COLUMBIA.

Abbe, Truman; How can we improve results of our operations for cancer; *Surg. Gynec. and Obstet.*, February, page 185.

Anderson, J. F.; Etiology of infectious diseases; *Vermont Med. Monthly*, January.

Anderson, J. F., and A. J. McLaughlin; Plague like organism from rat; *Amer. Jour. Pub. Hlth.*, January.

Barnes, N. P.; Filariasis; report of case treated with dioxydiamido-arsenobenzol; *Mo. Cyclop. and Med. Bull.*, January, page 1.

Bennett, A. B.; Prognostic value of Rinne-Weber and Schwaback tests; *Med. Rec., N. Y.*, January 18.

Bovée, J. W.; Application of iodine to external and internal generative organs of women; *Amer. Jour. Obstet.*, February. Also Statistics in radical operation for cancer of cervex uteri; same Jour., 1912, page 380.

Bryan, J. H.; Relation of diseases of posterior sinuses to painful conditions of ear; *Laryngoscope*, December.

Connell, R. E. ; The Owen bill ; *N. Y. State Jour. Med.*, January.

Copeland, E. P. ; Artificial feeding in its relation to infant mortality ; *Va. Med. Semi-Mo.*, February 21, page 554 ; abstracted in *Louisville, Mo. Jour. Med. and Surg.*, March, page 302.

Craig, Chas. F. ; Relation of parasitic amebae to disease ; *Amer. Jour. Med. Sci.*, January. Also, The interpretation of the results of the Wassermann test ; *Jour. A. M. A.*, February 22, page 565.

Folkmar, E. C. ; The need for sex hygiene ; *Woman's Med. Jour.*, December, page 288. Also, Teaching the public value of sex hygiene; *Washington Herald*, December 8, part 1, page 11. Also, Need for sex hygiene ; *Evening Star*, December 13. Also, Teach sex hygiene ; *Sunday Star*, December 22, part 7, page 10. Also, Means for securing sex hygiene ; *Woman's Med. Jour.*, January, page 13.

Frost, W. H., W. R. Stokes and F. W. Hachtel ; Septic sore throat, a milk-borne outbreak in Baltimore, Md. ; reprint from Public Health Reports, No. 103, 1912.

Garrison, F. H. ; History of bloodletting ; *N. Y. Med. Jour.*, February 1.

Goldberger, Joseph ; How the U. S. Public Health Service can help in the eradication of preventable diseases in Kentucky ; reprint from Public Health Reports, No. 107, 1913.

Hale. Wm. ; Toxicity studies with coal-tar disinfectants; *Amer. Jour. Pub. Hlth.*, January ; abstracted in *Jour. A. M. A.*, March 1, page 695.

Hall, H. O. ; The onion and garlic as a remedy for pneumonia and pulmonary tuberculosis ; *Amer. Med.*, January, page 26.

Hazen, H. H. ; Acid nitrate of mercury in dermatological surgery; WASH. MED. ANNALS, November, page 246 ; abstracted in *Annals of Surgery*, February, page 79.

Jennings, A. H., and W. V. King ; One of the possible factors in the causation of pellagra ; *Jour. A. M. A.*, January 25, page 271.

Kinyoun, J. J., and L. V. Deiter ; The preparation of Endo's medicine ; *Amer. Jour. Pub. Hlth.*, December, page 979.

Lavinder, C. H. ; Prevalence and geographical distribution of pellagra in the United States ; reprint from Public Health Reports, No. 106.

McLaughlin, A. J. ; Sewage pollution of great lakes ; *N. Y. Med. Jour.*, February 22.

Magruder, E. P. ; Neoplasms of the gastro-intestinal tract causing obstruction ; *Va. Med. Semi-Mo.*, February 7, page 521.

Mallory, W. J. ; Gastric neuroses ; *Journal-Record of Med.*, August.

Miller, G. B. ; Diagnosis of extrauterine pregnancy ; *Amer. Jour. Obstet.*, February.

Moran, J. F. ; Obstetrical and surgical treatment of puerperal eclampsia ; *Surg. Gynec. and Obstet.*, February, page 219.

Morgan, J. D. ; Hodgkin's disease ; *Med. Record, N. Y.*, February 15.

Morgan, W. G. ; Indicanuria ; *Amer. Jour. Med. Sci.*, December; abstracted in *Old Dom. Jour. Med. and Surg.*, January, page 24.

Nichols, J. B. ; Medical sectarianism ; *Jour. A. M. A.*, February 1, page 331.

Randolph, B. M. ; The kidney in arteriosclerosis ; *Va. Med. Semi-Mo.*, January 24, page 497.

Reede, E. H. ; Syphilitic tracheal stenosis ; WASH. MED. ANNALS, November, page 217 ; abstracted with illustration in *Buffalo Med. Jour.*, February, page 407.

Reid, E. C. ; Literary genius and manic-depressive insanity ; *Med. Record, N. Y.*, February 8.

Russell, F. F. ; Antityphoid vaccination in children ; *Jour. A. M. A.*, February 1, page 344.

Scott, J. R. ; A critical study of the albumin reaction in the sputum of tuberculous patients ; *Jour. A. M. A.*, February 8, page 440.

Seidell, A., and F. Fenger ; Seasonal variations in iodin content of thyroid ; *Jour. Biol. Chem.*, January ; abstracted in *Jour. A. M. A.*, January 25, page 319.

Shufeldt, R. W. ; Analysis and philosophy of the so-called social evil ; *Pacific Med. Jour.*, January, page 22.

Smith, E. F. ; Discovery of cancer in plants ; *National Geographic Mag.*, January, page 53.

Stitt, E. R. ; Prevention of spread of infectious diseases on shipboard ; *U. S. Naval Bull.*, January.

Stone, I. S. ; Conservation treatment of salpingitis by uterine and tubal injection ; *Jour. A. M. A.*, March 1, page 656.

Surgeon General Public Health Service, Annual Report, 1912.

Vaughan, G. T. ; Hydrophobia in man ; *Va. Med. Semi-Mo.*, April 26, page 29 ; abstracted in *Jour. Med. Soc. New jersey*, February, page 459. Also, Central dislocation of femur ; *Surg., Gynec. and Obstet.*, 1912, page 249.

Washington Surgical Society ; meeting May 17, 1912 ; see *Surg., Gynec. and Obstet.*, February, page 227.

Wellington, J. R. ; Meckel's diverticulum, with report of four cases ; *Surg., Gynec. and Obstet.*, January.

Whipple, G. C. ; The 37th bacterial count ; *Amer. Jour. Pub. Hlth.*, January.

White, C. S. ; Post-operative treatment ; *Va. Med. Semi-Mo.*, October 11, page 313 ; abstracted in *West Va. Med. Jour.*, March, page 304.

White, W. A.; Factor of fatigue with reference to industrial conditions; *Amer. Jour. Med. Sci.*, February.

Williams, T. A.; Multiple professional cramps in a psychasthenic; *N. Y. Med. Jour.*, February 15. Also, Practical import of recent work in hysteria; *Jour. A. M. A.*, December 21, page 2224; abstracted in *West Va. Med. Jour.*, March, page 305. Also, Nervousness in children, how to prevent it; *Archiv. Pediatric*, January.

Winter, F. A.; Preparedness of Medical Department of Army in matter of field medical supplies; *Military Surgeon*, January.

PERSONAL NOTES.

Dr. W. C. Borden is a member of the Committee on Medical Education and Pedagogics of the Association of American Medical Colleges.

Dr. N. D. Brecht of this Society, Assistant Surgeon, Public Health Service, has been transferred from the Marine Hospital, San Francisco, to the Quarantine Station on Angel Island.

Dr. C. L. Cole, U. S. Army, has been transferred from the Army Medical School to Fort Leavenworth, Kansas.

Dr. H. M. Darnall has resigned from the Medical Corps, U. S. Army, and has gone to McKinney, Texas.

Dr. H. D. Geddings of the Public Health Service died in Washington February 23, of cerebral hemorrhage.

Dr. R. W. McDowell, U. S. Army, was married in Washington February 17 to Miss Ruth Noyes of this city.

Dr. E. E. Richardson of this Society was installed as Pastor of the Baptist Church, Congress Heights, March 17.

Dr. R. W. Shufeldt, U. S. Army, retired, has been elected an honorary member of the Royal Australasian Ornithological Union of Melbourne.

Dr. W. F. M. Sowers was married January 1 to Miss Ruth Fellow of Chicago.

Dr. F. H. Garrison, assistant librarian of the Surgeon General's Office, Dr. E. R. Hodge, chemist of the same, and Dr. F. M. Chisolm have been confirmed by the U. S. Senate as members of the Medical Reserve Corps of the Army.

The following changes have been made in the personnel of the Naval Medical School: Dr. D. C. Post transferred to the Navy Yard, N. Y. City; Dr. C. F. Charlton to Recruiting Station, Hartford, Conn.; Dr. C. H. Dragoo to the *Meade*; Drs. W. E. Findeiser and C. C. Wood to the *Prairie;* Drs. J. L. Brown and J. A. Mahoney to the Asiatic Station; Dr. L. W. Johnson from Navy Recruiting Station to Naval Hospital, Washington.

CONSTITUTION AND BY-LAWS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.*

CONSTITUTION.

I.—NAME.

The name of this organization shall be THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

II.—OBJECT.

The object of this Society shall be the promotion, locally and generally, of the science and art of medicine and sanitation and the interests of the medical profession.

III.—STATUS.

1. This Society shall be a continuation and amalgamation of the Medical Society of the District of Columbia (founded September 26, 1817, and chartered by acts of Congress of February 16, 1819, and July 7, 1838) and the Medical Association of the District of Columbia (organized January 11, 1833).

2. This Society shall be a representative medical organization of the District of Columbia, constituted and maintained in conformity with the general plan of the American Medical Association; it hereby declares its allegiance to the American Medical Association and agrees with other state and territorial medical associations to the formation and the perpetuation of the House of Delegates of the American Medical Association.

IV.—MEETINGS.

1. This Society shall hold regular meetings every Wednesday during the months from October to May, inclusive, excepting the last two Wednesdays in December and Wednesdays falling on January first, beginning at eight o'clock P. M.

2. The meetings occurring on the first Wednesday (not a legal holiday) in the months of January, March, May and November shall constitute the stated meetings, and shall be devoted to the transaction of the formal business of the Society. The stated meeting occurring on the first Wednesday in January following New Year's Day of each year shall constitute the annual meeting of the Society, and shall be devoted to the reception of annual reports and other annual business.

3. The meeting on the first Wednesday of December of each year shall be devoted to the election of officers for the ensuing calendar year.

* This Constitution was adopted by the Medical Society of the District of Columbia and Medical Association of the District of Columbia on different dates, but went into operation at the time of the union of the two societies, July 10, 1911. The By-Laws were adopted January 3, 1912.

4. Aside from the stated meetings the regular meetings of this Society shall be devoted primarily and mainly to scientific proceedings, namely, the presentation of cases, specimens and papers on medical subjects. At such meetings current and routine business may be transacted, and also any emergency, urgent or necessary business that may arise. The conduct of the scientific programs of such meetings may be assigned equitably to the various sections; and social sessions may also be held.

5. Special meetings shall be held as may be ordered by the Society or Executive Committee, or upon the written request of any ten members.

6. Due notice of each regular and special meeting shall be sent to each active member, in which shall be specified, so far as possible, the program contemplated for the meeting, both as to scientific material and items of important business.

7. Any business due to be transacted at any stated, regular or special meeting of the Society may, if circumstances necessitate, by vote of the Society (or, in case of emergency, of the Executive Committee), be postponed to a specified subsequent meeting. Due notice of such postponement shall be sent to every member, and such postponed transactions shall be as valid as if effected at the original meeting.

V.—MEMBERSHIP.

1. The members of this Society shall be of three classes, active, associate and honorary.

2. Every active, associate and honorary member of either the Medical Society of the District of Columbia or the Medical Association of the District of Columbia, or of both, in good standing at the time this Constitution goes into effect shall, *ipso facto,* become a member (active, associate or honorary, as the case may be) of this Society; and the order of seniority of such members shall be reckoned from the date of their first admission into either of those bodies.

3. Active membership in this Society shall (with such exceptions as may occur in consequence of the operation of the foregoing section) be limited to reputable, regular, legally qualified practitioners of medicine residing in the District of Columbia, and solely or mainly engaged in the lawful practice of medicine therein.

4. Applications for active membership must be made in writing on forms provided by the Society, indorsed by three members of the Society, and sent to the Secretary, who shall present them at the next stated meeting of the Society. They shall then be referred to the Committee of Censors, who shall investigate and submit report thereon at the next ensuing stated meeting, when they shall be voted on by the Society. [Amended May 1, 1912. "The

Corresponding Secretary shall send to each member of the Society a list of all pending applications for membership at least one month before the stated meeting, at which such applications are to be acted upon by the Society."] Due notice of the names of all candidates to be voted on for membership at each stated meeting shall be sent to all active members. The voting shall be by individual secret ballot (in no case by empowering any officer or member to cast a unanimous ballot), and a favorable concurrence of two-thirds of the votes cast shall effect election to membership. After election applicants shall, within three months, pay an admission fee of five dollars, and sign an obligation to be governed by the Constitution and By-Laws of this Society; whereupon they shall become full active members; and said admission fee shall constitute the dues for the current year.

5. This Society shall be governed and conducted exclusively by its active members.

6. Twenty-one active members present shall constitute a quorum for the valid transaction of the business of the Society.

7. All duties, obligations, and regulations as to their professional conduct and relations with this Society and with one another which shall be imposed by the Constitution and By-Laws of this Society shall be binding and mandatory upon all members, and for violation thereof they shall be subject to discipline by the Society.

8. Charges against any member or members must be submitted in writing, giving specific facts, to the Executive Committee, and shall then be fully and impartially investigated by it, the accused being given a fair hearing. Should this committee by a two-thirds vote find the accused guilty of a violation of the regulations of the Society, it shall submit its report and recommendations in writing to the Society at a regular meeting, due notice of such prospective report to be previously sent to all active members; the matter shall then lie over until a subsequent regular or special meeting to be fixed upon by vote of the Society; at which meeting (of which due notice shall be sent to all active members) the matter shall be discussed and acted upon, and such punishment (reprimand, fine, suspension, expulsion, or the like) may be imposed as may be determined upon by a concurrence of two-thirds of the votes cast. No punishment shall be imposed upon any member except after the foregoing procedure is carried out and by a two-thirds vote.

9. Any member who changes his residence or occupation in such a way as to extinguish his eligibility to membership in this Society may, unless he resign, be proceeded against in the manner specified in the foregoing section, with a view to terminating his membership.

10. All members two years in arrears in the payment of dues

or assessments shall, at any stated meeting and after thirty days' notice, be dropped from membership, unless the indebtedness be remitted by a majority vote.

11. Members desirous of resigning from the Society shall submit a written resignation, which, after being read at any regular meeting, shall be voted on at the next regular meeting and, with the concurrence of a majority, be accepted. No resignation shall be accepted from a member who is indebted to the Society for dues or assessments, unless the latter are remitted.

12. Notice of the names of members resigned, dropped or expelled from the Society shall, at the next convenient opportunity, be sent to all the active members.

13. Medical men not eligible for active membership, scientists engaged in collateral lines of research, and members of the dental, pharmaceutical and veterinary professions shall be eligible for associate membership in the Society. They shall be elected in the same manner as active members, except that no admission fee shall be charged; they shall have the privilege of attending and participating in the scientific sessions of the Society, and shall receive its publications and notices of its meetings; they shall not vote or hold office in the Society, shall be subject to its discipline, and pay such dues and assessments as may be imposed by the Society.

14. Any physician, scientist, or other person who by reason of eminent contributions to medical or collateral science or of meritorious services to the medical profession deserves recognition may, by any three members in writing at any stated meeting, be proposed for honorary membership. The proposition shall be considered by the Committee of Censors and reported on at the next stated meeting, and shall then be voted on by the Society in the same manner as applications for active membership. Favorable concurrence of two-thirds of the votes cast shall effect admission of the candidate as an honorary member. Honorary members shall have the privilege of attending the meetings and participating in the scientific proceedings of the Society, but shall not hold office or vote; notices of meetings need not be sent to them unless they are resident in the District of Columbia or so desire.

VI.—OFFICERS.

1. The officers of this Society shall be a President, a First and a Second Vice-President, a Recording Secretary, a Corresponding Secretary and a Treasurer, who shall be elected by ballot on the first Wednesday in December of each year, and on the first day of January following shall assume office and serve as such for the calendar year ensuing or until their successors assume office; and a Delegate, with an Alternate, to the American Medical Association (who must have been members of the American

Medical Association for at least two years), who shall be elected by ballot biennially on the first Wednesday of December of odd-number years, to serve for two years. The President and Vice-Presidents shall be ineligible for reëlection until after two years from the expiration of their terms of office.

2. Whenever a vacancy occurs in any office or elective committee membership, an election for the remainder of the term of office may be held at any regular meeting after due notice shall have been sent to all active members.

3. The President shall preside over the meetings of the Society; authenticate by his signature the papers and disbursement warrants of the Society; call special meetings at the request of the Executive Committee or any ten members; deliver an annual address at some meeting in December of each year; be *ex-officio* a member of the Executive Committee; and perform such duties as may be imposed on him by the Society, or in general as pertain to his office.

4. The Vice-Presidents shall, in order of their rank, assume the duties of the President during his absence or inability to act.

5. The Recording Secretary shall make full records of the proceedings of the Society, and after their approval by the Society, preserve them in secure and permanent bound form; he shall act as reading clerk at the meetings; he shall be custodian of and responsible for all books, records, papers and other property of the Society (excepting funds and current financial records), which he shall keep in secure and accessible form; he shall endeavor to obtain the signatures of newly elected members to the obligation to be governed by the Constitution and By-Laws of the Society, and perform in general such duties as may be imposed by the Society or are pertinent to his office. For his services he shall receive a salary of two hundred dollars per annum.

6. The Corresponding Secretary shall notify members and officers of their election, inform committee appointees of their selection and the duties with which they are charged, advise persons concerned of action affecting them taken by the Society, and in general conduct the correspondence of the Society; he shall prepare proper credentials to the Delegate to the American Medical Association; he shall maintain a complete and accurate list of active, associate and honorary members, with their addresses, and each year send such list to every member of the Society; he shall, after conference with the Program Committee, a sufficient time previously send to all members, and to such others as may be designated, an announcement of each regular and special meeting, specifying the cases, specimens and papers to be presented, the names of all applicants for membership to be voted on, reports of the Executive Committee on the investigation of accused members to be presented or considered and acted on, amendments to the Constitution and By-Laws and proposed special assess-

ments to be voted on, postponed stated business, interim elections, and so far as possible all important items or the general character of the business to be transacted; he shall also notify the members of the names of those recently resigned, dropped or expelled; and perform such other duties as may be imposed on him or pertain to his office. For his services he shall receive a salary of two hundred dollars per annum.

7. The Treasurer shall collect and have charge of all moneys due the Society, sending out bills therefor at proper times; deposit them to the credit of the Society in a bank designated by it for that purpose; keep the accounts of the Society with its members and others; make all disbursements ordered by the Society on warrants authenticated by the President; keep an accurate record of receipts, disbursements, funds and assets; furnish such security as may be required; at each annual meeting, or at any time he is so ordered by the Society, shall render a statement of his accounts, with vouchers, which shall be audited by the Executive Committee; and he shall be *ex-officio* a member of the Executive Committee. For his services he shall receive a salary of two hundred dollars per annum.

8. The Delegate to the American Medical Association, or his Alternate, if he be unable to serve, shall attend the sessions of the House of Delegates of the American Medical Association as the accredited representative of this Society; and shall make report thereon at the next stated meeting of the Society.

VII.—STANDING COMMITTEES.

1. This Society shall maintain the following standing committees, namely, an Executive Committee, a Committee of Censors, a Committee on Program and a Committee on Publication.

2. The Executive Committee shall consist of the President, Treasurer [Amended May 1, 1912, adding: "Recording Secretary, Corresponding Secretary"], Delegate to the American Medical Association, the chairman of each section, and the chairmen of the Committee of Censors, the Committee on Program, and the Committee on Publication, *ex-officio,* and of nine elective members. The elective members shall be chosen on the first Wednesday of December in each year, to serve (after 1912) three years each; and shall be so arranged that each year the terms of office of three of them shall expire and then be refilled; vacancies occurring among the elective members may be filled by election of the Society for the remainder of the term of office; and no elective member at the expiration of his term shall be reëlected before the lapse of one year. Seven members of the committee shall constitute a quorum for the transaction of business.

The Executive Committee shall maintain an organization by the annual election of a chairman, vice-chairman and secretary, and

shall keep full records of its proceedings. It shall hold meetings at the discretion of its chairman or at the call of any three of its members. It shall keep informed in all matters pertaining to the objects, interests, policy and conduct of the Society, and report to the Society such recommendations as it may deem advisable. It shall exercise general oversight over the work of the officers, committees and sections. It shall annually audit the accounts of the Treasurer. It shall receive, investigate and report to the Society, in the manner hereinbefore prescribed, all charges against members of violation of requirements of the Constitution or By-Laws. It shall endeavor to adjust minor complaints and differences of members, without reporting to the Society; subject, however, to appeal to the Society. It shall consider, report upon, and under the direction of the Society, promote or oppose legislative matters affecting the Society. It shall perform such duties as the Society may assign to it; in emergencies it may act for the Society, reporting such action to the Society; and it shall be subject to the control and direction of the Society.

3. The Committee of Censors, Committee on Program and Committee on Publication shall consist of five members each, and shall be appointed by the President at the time of his assumption of office, to serve until their successors are appointed. Vacancies shall be filled as they occur by appointment by the President. The chairmen of these committees shall be designated by the respective committees, and shall be *ex-officio* members of the Executive Committee.

4. The Committee of Censors shall investigate and report upon applications for membership.

5. The Committee on Program shall secure and arrange for the presentation of medical cases, specimens and papers at the meetings of the Society, and shall prepare the notices of the business and scientific programs of the meetings to be sent to the members by the Corresponding Secretary.

6. The Committee on Publication shall have charge of the publication of the transactions of the Society; and its chairman and members shall be the Editor and Associate Editors of such periodical publication as may be issued.

VIII.—SECTIONS.

1. Whenever a sufficient demand therefor arises active and associate members may organize sections, composed of special classes of the membership or devoted to the consideration and promotion of special branches of medical science and art, by securing the adoption of amendments to this Constitution recognizing and establishing each section by name as a definite department of this Society. Each section shall form and maintain an organization by adopting by-laws, and annually in December

electing a chairman, vice-chairman and secretary, to serve for the ensuing calendar year. The chairman of each section shall, *ex-officio,* be a member of the Executive Committee of the Society. Any active or associate member of the Society may at his option join any section, but must conform to such financial or other regulations as may be imposed by the section, under penalty in case of not so conforming of forfeiting membership in the section. Each section shall arrange for the time and place of its meetings, but shall not hold sessions at the same time with the regular meetings of the Society; by arrangement with the Society or the Committee on Program, however, the scientific proceedings of regular meetings of the Society may, either occasionally or at stated intervals, be conducted by the sections. All members of the Society shall have the right to attend the scientific sessions of any section, but not without permission or invitation to participate in the discussions (except when held at the regular meetings of the Society). So far as possible, notices of the programs of the meetings of the sections shall be sent to all the members of the Society in conjunction with the notices of the weekly meetings of the latter. The transactions of the sections may be published with the transactions and proceedings of the general Society. Sections may at any time submit to the general Society reports or recommendations for the information or action of the latter. Each section shall be governed and conducted by its own members; but its proceedings and organization must conform to the Constitution and By-Laws of this Society, and it shall be subject to the control of, and appeal to, the Society; provided, that it shall require a two-thirds vote of the Society to reverse any action taken by any section. The Society shall not, without its consent, be put to any expense on behalf of any section. Each section shall furnish to the Society a copy of its by-laws and all amendments thereto, and shall submit such information concerning its operations as the Society may at any time require. Each section at the annual meeting shall submit a report of its proceedings during the preceding year, giving the names of its officers, the number of its members, the number of and attendance at its meetings, the work accomplished, and in general such information as may keep the Society advised as to its activity, success and character. The existence of any section may be terminated by the adoption of an amendment to this Constitution annulling its recognition and establishment.

2. The following sections are recognized and established as definite departments of this Society:

Section 1, on internal medicine.

Section 2, on surgery.

Section 3, on gynecology and obstetrics.

Section 4, on ophthalmology, otology, rhinology and laryngology.

Section 5, on medical history.

Section 6, on therapeutics.

[Amended January 3, 1912, adding: Section 7, on nervous and mental disorders.]

IX.—FUNDS AND PROPERTY.

1. All funds, records, papers and property belonging to the Medical Society of the District of Columbia and the Medical Association of the District of Columbia at the time of their amalgamation shall become the property of this Society. All the records, minutes and important papers of these organizations shall be carefully and perpetually preserved.

2. Annual dues of four dollars shall be paid in January by each active member, and two dollars by each associate member; special assessments may also be levied at any meeting after due notice of such proposed action shall have been sent to the members. Dues and assessments may, in worthy cases, be remitted; and permanently in the case of deserving superannuated members.

X.—BY-LAWS.

1. By-Laws not inconsistent with this Constitution may be adopted by a favorable concurrence of two-thirds of the votes cast at any stated meeting, after having been proposed in writing at a previous stated meeting and a copy thereof been sent to all active members with a notice of the meeting at which their adoption is to be voted on.

2. The operation of any By-Law may, at any meeting and for a definite purpose, be suspended by a two-thirds vote; but for that purpose and at that meeting only.

XI.—AMENDMENTS.

1. Amendments to this Constitution or the By-Laws may be adopted by a favorable concurrence of two-thirds of the votes cast at any stated meeting, after having been proposed in writing at a previous stated meeting and a copy thereof been sent to all the active members with a notice of the meeting at which their adoption is to be voted on.

2. No provision of this Constitution shall be suspended or abrogated under any circumstances whatever, even by unanimous consent, except through amendment by the procedure specified in the foregoing section.

XII.—EFFECTUATION.

This Constitution shall go into effect upon its adoption by both the Medical Society of the District of Columbia and the Medical Association of the District of Columbia.

By-Laws.

I. Order of Business.—1. The following shall be the order of business for the meetings of the Society: 1. Call to order; 2. Reading of minutes of previous meeting; 3. Reports of officers; 4. Reports of committees and sections; 5. Election of members; 6. Election of officers; 7. Correspondence; 8. Unfinished business; 9. New business; 10. Introduction of visitors; 11. Presentation of clinical cases and pathological specimens; 12. Essays; 13. Adjournment.

2. The time devoted to business shall not exceed thirty minutes, excepting at stated and special meetings and at meetings devoted to the election of officers.

II. Rules of Order.—1. The parliamentary procedure of this Society shall be governed by Robert's Rules of Order.

2. No matter involving an expression of the opinion of the Society in public matters shall be considered or voted on, except after due notice of the subject and time of its consideration shall have been sent to all the active members.

III. Visitors.—Any reputable physicians or persons engaged in collateral sciences or arts may at the invitation of any member attend the scientific meetings of the Society. Applicants for membership in the Society may also attend the meetings during the pendency of their applications. Medical officers of the public services while stationed in or near Washington are given a standing invitation to attend the scientific meetings of the Society and its Sections, and notices of the meetings shall at the order of the Society be sent to such as may so desire. The privilege of visiting the meetings shall always, however, be subject in individual cases to the will of the Society.

IV. Essays.—No papers shall (without express permission) be presented before the Society that have been previously elsewhere read or published. The time allowed for delivery of essays shall be limited to thirty minutes; for presentation of cases or specimens, to ten minutes; and for discussions, to seven minutes each; but these time limits may be extended by majority consent of the Society.

V. Forms of application for membership.—The following forms are prescribed for application for active and associate membership in this Society.

ACTIVE MEMBERSHIP.

Washington, D. C., ———, 19—.

To the Medical Society of the District of Columbia:

The undersigned, a legally qualified regular practitioner of medicine residing in the District of Columbia, hereby applies for active membership in the Medical Society of said District, and re-

spectfully submits the following information as to his qualifications therefor:

Full name, —— ——; Date of birth, ——; Place of birth, ——; College of graduation as Doctor of Medicine, ———; Date of such graduation, ——; Date licensed by the Board of Medical Supervisors, ——; License No. ——, Series ——; Date of beginning the practice of medicine in the District of Columbia, ——.

At what times and places, other than this District, have you practiced medicine?

Name the medical and scientific societies and associations of which you have been a member, indicating those in which you still retain membership.

Name the public and institutional appointments which you have had, indicating the dates of such connections, and specifying the institutions with which you still retain connection.

Are you solely or mainly engaged in the lawful practice of medicine?

Are you engaged in any business, trade or profession, other than the practice of medicine? If so, please specify.

What degrees have you, other than Doctor of Medicine?

Have you previously made application for membership in this Society? If so, when?

I hereby agree to notify immediately the Secretary of this Society of any change in my address, and to inform him at once should I engage in any business, trade or profession other than the practice of medicine, prior to the meeting at which this application is acted upon.

Appreciating the requirement for investigating my eligibility for membership in this Society, I hereby agree to permit a full investigation and discussion by the Society and the Censors, and to abide by their decision.

Signature of Applicant ——— ———.

Address, ———.

Recommended by. (The signatures of three members of the Society indorsing the applicant must be furnished.)

NOTE.—Active membership in the Society is limited to reputable, regular, legally qualified practitioners of medicine residing in the District of Columbia, and solely or mainly engaged in the lawful practice of medicine therein. Applications are presented at one stated meeting and voted on at the next. The stated meetings are held on the first Wednesdays in January, March, May and November of each year. After election applicants must, within three months, pay an admission fee of five dollars and sign an obligation to be governed by the Constitution and By-Laws of the Society.

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Application for active membership.

No. ——.

.....

Received ——, 19—; presented at the stated meeting held ——, 19—, and referred to the committee of censors for investigation and report.

—— ——, *Recording Secretary.*

This is to certify that we have examined as to the qualifications of the within named applicant, and found him —— eligible for membership in this Society.

——— ———.
——— ———.
——— ———.
——— ———.
——— ———.

Censors.

—— at the stated meeting held ——, 19—.

—— ——, *Recording Secretary.*

ASSOCIATE MEMBERSHIP.

Washington, D. C., ———, 19—.

To the MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA:

The undersigned hereby applies for associate membership in the Medical Society of the District of Columbia, and submits the following information as to his qualifications therefor:

Full name, —— ——; date of birth, ——; place of birth, ——; residence, ———; profession, ———.

State all the academic and professional degrees held by you, with the school and the date of graduation in each case.

In what other business or occupation are you engaged other than the practice of your profession?

How long have you been engaged in the practice of your profession?

How long have you lived in your present place of residence?

Name the scientific and professional societies of which you have been a member, indicating those in which you now retain membership.

Name the public and institutional appointments which you have had, indicating the dates of such connections, and specifying those which you now have.

Appreciating the requirement for investigating my eligibility for membership in this Society, I hereby agree to permit a full investigation and discussion by the Society and the Censors, and to abide by their decision.

Signature of Applicant ——— ———.

Address, ———.

Recommended by. (The signatures of three members of the Society indorsing the applicant must be furnished.)

MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Application for Associate Membership.

No. ——.

.....

Received, ——, 19—; presented at the stated meeting held ——, 19—, and referred to the committee of censors for investigation and report.

—— ——, *Recording Secretary.*

This is to certify that we have examined as to the qualifications of the within named applicant, and found him —— eligible for membership in this Society.

——— ———.
——— ———.
——— ———.
——— ———.
——— ———.

Censors.

——— at the stated meeting held ——, 19—.

—— ——, *Recording Secretary.*

VI. Obligation for new members.—The following obligation shall be signed by each new member within three months of his election to membership:

"I hereby agree to be governed by the Constitution and By-Laws of the Medical Society of the District of Columbia, and to abide by the regulations prescribed therein."

VII. Duties and professional relations of members.—1. The principles of medical ethics of the American Medical Association shall be binding upon the members of the Society.

2. In certificates of illness concerning absence from official duties given to employees in the public service, or others, the disease shall not be specified, neither shall the name or nature of the disease be divulged by any written description or statement of symptoms, given to the patient, nor by any specification of the disorder, nor by any disclosure which may be construed as an evasion of the purpose of this regulation.

3. It shall be the duty of members of this Society to discourage patients from defrauding other members, and it is expected that the members will use all just and proper means to assist one another in the collection of their fees for professional services.

4. No member of this Society who has been called in as consulting physician, in a medical or surgical case, shall assume sole charge of the patient, during the same illness, unless he shall have been specifically requested to do so by the attending physician.

5. No member of this Society shall offer, solicit, give, or receive any commission for recommending or referring patients for general or special treatment, diagnosis, or operation; or shall solicit or accept any commission from any pharmacist or other dealer in supplies and appliances for the sick and injured on account of patients referred to them.

6. Any member guilty of violating any of the public laws relating to medical and surgical practice shall be subject to discipline by the Society.

7. Members summoned as witnesses in cases under investigation by the Executive Committee shall comply, under penalty of discipline by the Society.

VIII. Hospitals and their Medical Staffs.—1. Every institution for medical charity shall require from every applicant for relief in its hospital or dispensary, a written certificate, to be obtained as hereinafter provided, that said applicant is unable to pay. Emergency cases are to be excepted from the operation of this rule.

2. Such certificate shall be obtained from the Board of Charities, the Associated Charities, or any registered physician.

3. Members of this Society shall be entitled to the privilege of attending private patients occupying private rooms in any of the public hospitals of this city.

4. The members of the medical staffs of hospitals when attending medical or surgical cases in private pay rooms shall insist upon proper payment for their services, except in the case of patients who are unable to pay.

5. Whenever the medical staff of a hospital or dispensary, or any member thereof, is forced to resign, and when, after due hearing, this Society finds that the resignations were for unjust and insufficient cause, it shall be forbidden to any member of this Society to accept a position on the staff of said hospital or dispensary.

6. Whenever one or more members of the medical staff of a hospital or dispensary are dismissed, and when, after due investigation, this Society finds that such dismissal was without just and sufficient cause, it shall be forbidden to any member of this Society to fill the vacancy created thereby.

7. Complaints under Sections 7 and 8 of this article shall be made in writing to the Executive Committee, for its investigation and action.

8. If upon investigation the Society should direct the enforcement of the prohibitions contained in Sections 7 and 8 of this article and afterwards a satisfactory adjustment of the differences recited be obtained, the Society may withdraw objections to filling the vacancy or vacancies described.

IX. Fees.—1. The following fees shall be charged for profes-

sional services, subject, however, to the several rules which are appended:

First visit	$2 to	$10
Each subsequent visit	2 to	10
Office consultation	2 to	10
Each consultation visit	5 to	50
The attending physician is entitled for each meeting to	5 to	50
Visit at night (night is understood to commence at 8 P. M. and end at 8 A. M.)	5 to	25
Advice at night at physician's house	5 to	10
Advice over telephone	2 to	10
Visiting at hour specified by the patient, the usual consultation fee.		
Visiting out of the city, at the discretion of the physician.		
For services to distant patients, in addition to the expense of travel, per day	50 to	500
Detention in any case at patient's house	5 to	100
All cases of small-pox, diphtheria, and scarlet fever, for each visit	3 to	10
Administering antitoxins	5 to	25
Case of gonorrhea, each consultation (cash)	5 to	15
Case of syphilis, each consultation (cash)	5 to	25
Venesection	10 to	100
Intravenous injections	10 to	200
Examination of urine, sputum, exudates, transudates, pus, stomach contents, feces, milk, cerebro-spinal fluid, calculi, etc.	5 to	50
Blood examination:		
Enumeration of corpuscles	5 to	25
Differential count	5 to	25
Widal test	5 to	25
Malarial examination	5 to	25
Blood culture	10 to	100
Wassermann test	15 to	100
Preparation of vaccines	25 to	200
Bacteriological examination of waters, etc.	5 to	200
Chemical examinations	5 to	200
Microscopic examination of tissues, etc.	10 to	200
Lumbar puncture	10 to	50
Autopsies	25 to	500
For letter of advice or written opinion	5 to	500
All certificates of life insurance, insanity, etc.	5 to	25
For attendance upon court in civil cases, per day	50 to	300
For an examination involving a question of law in a case in which the physician will be subpoenaed, and in all cases in which the physician is required to give medical opinions before a Committee of Congress	50 to	500
X-ray work—For work done in laboratory:		
Sinus examinations	25 to	50
Examination of teeth	10 to	75
Diagnosis of renal and vesical calculi and gallstones	50 to	200
Examination of stomach and bowels	75 to	200
Examination of chest	25 to	100
Examination of shoulder	25 to	50
Examination of elbow	15 to	50
Examination of hand and wrist	15 to	50
Examination of hip and pelvis	50 to	150
Examination of foot and ankle	15 to	50
Examination of leg and knee	25 to	75
Location of foreign bodies in the eye	25 to	50

For work done outside of the laboratory, from 50 to 500 per cent. additional, according to mileage.

Cases of obstetrics	$25 to $500
Operation for Caesarean section, symphyseotomy, extra-uterine pregnancy, high forceps, version, induction of premature labor, etc.	100 to 5,000
All obstetrical services, cash.	
Abdominal section for relief of wounded viscera such as bladder, spleen, intestines, kidneys, liver or other organs, or for appendicitis	100 to 5,000
Capital operation as, for example, amputating large limbs, trephining, excision of large tumors, operation for radical cure of hernia, for aneurism, extirpation of cancerous breast, ligation of large arteries, etc.	100 to 5,000
Operation for hemorrhoids	50 to 500
Operation for fistula in ano	50 to 500
Operation for fissure of anus	10 to 100
Each subsequent dressing at usual rate for dressing wounds.	
Operation for subcutaneous tenotomy	25 to 500
Amputation of fingers or toes	25 to 100
Amputation through tarsal or metatarsal bones	50 to 300
Reduction of dislocation	25 to 500
Adjustment of fractured long bones	50 to 1,000
Subsequent attendance at ordinary rates, but each renewal of bandages or apparatus	5 to 50
For each assistant in surgical operations	10 to 100
Dressing recent wounds, etc.	5 to 25
Paracentesis abdominis	15 to 100
Opening abscess	5 to 25
Extirpation of tumors of minor importance	10 to 100
Administration of anæsthetics	10 to 100
Hysterectomy	100 to 5,000
Ovariotomy, salpingectomy, tubal pregnancy, etc.	100 to 5,000
Amputation of cervix	50 to 500
Operation for prolapse of uterus	100 to 1,000
Operation for uterine displacement	100 to 1,000
Gynecological examinations	5 to 25
Minor gynecological operations, such as repair of perineum, trachelorrhaphy, urinary fistula, vaginal puncture, colporrhaphy, curettement, dilation, etc.	25 to 500
Operations on the eye:	
Operation on the lens for cataract, etc	25 to 1,000
Chalazion, incision of	10 to 15
Enucleation	50 to 250
Foreign body in interior of the eye	100 to 1,000
Iridectomy, etc.	50 to 250
Plastic operation	25 to 500
Removal of foreign bodies from cornea and conjunctiva	3 to 15
Minor operations upon the eye, such as pterygium, paracentesis of cornea, ablation of staphyloma, tenotomy, grattage, trachoma, etc	10 to 100
Operations on the ear:	
Mastoid abscess and abscess of brain	100 to 2,000
Removal of ossicles	50 to 500
Sinus thrombosis, operation for	200 to 2,000
Minor operations, as paracentesis, removal of cerumen, polypus, foreign bodies, etc.	10 to 50
Exenteration	100 to 1,000

Operations on the nose and throat:	
Operation for deflected septum, foreign bodies, polypus, septal spur, turbinates, etc.	$10 to $250
Operation for sinusitis, ethmoidal, frontal or sphenoidal	100 to 1,000
Tonsillectomy, uvulectomy, adenectomy	10 to 250
Tracheotomy	100 to 500
Intubation	50 to 500
Laryngectomy or laryngotomy	250 to 1,000
Removal of laryngeal growth	100 to 1,000
Operation for harelip or cleft palate	100 to 1,000
Cystoscopic examination and catheterization of ureters	25 to 200
External urethrotomy for stricture	100 to 1,500
Removal of testicle for malignant growth, or operation for undescended testicle	100 to 2,000
Prostatectomy, etc.	100 to 5,000
Cystotomy for stones, etc.	100 to 2,000
Removal of kidney, nephrotomy, etc.	100 to 5,000
Removal of ureteral stones	100 to 5,000
Inguinal adenectomy	50 to 300

2. The foregoing table contains the standard fees which shall be demanded; they shall be increased according to the judgment of the practitioner concerned, in all cases of extraordinary detention or attendance; also in proportion to the importance of the case, of the responsibility attached to it, and to the services rendered, when these are extraordinary. They shall be diminished at the discretion of the physician when he believes that the patient can not afford to pay the regular fees, and yet is able to make some compensation; but diminishing the fees except for motives of charity and benevolence is a violation of this regulation.

3. Medical officers connected with the staffs of the hospitals and dispensaries in the District of Columbia shall charge the usual fees for medical services rendered to persons who seek gratuitous services when they are able to pay.

4. Clergymen are not entitled to gratuitous services except when they are in indigent circumstances.

Graduates of medicine are not entitled to gratuitous services unless they devote their entire time to the practice of medicine or by reason of age or infirmity have retired from the regular practice of medicine, or unless such graduates of medicine are in indigent circumstances.

5. It is not designed by these regulations to prevent gratuitous services to those who are incapable of making remuneration without distressing themselves or their families.

6. When a physician engaged to attend a case of obstetrics is absent, and a second attends the patient, the latter may charge the full fee, but shall relinquish the patient to the first on his return; and in no case shall the second continue to attend, except to render indispensable service during the continued absence or disability of the first.

7. When one or more physicians are called in consultation the

attending and consulting physician or physicians shall charge at least the ordinary fee for delivery or other services; but when the latter are not detained in attendance they shall only charge the usual fee for consultation.

8. It is recommended that the members of this Society present their accounts for professional services at the close of the attendance; and it shall be the duty of each member to obtain, if possible, a monthly settlement from all his patients.

9. No member of this Society shall make a contract, expressed or implied, to attend an individual, family, club, lodge, or other organization by the year, or on any terms other than those authorized by these regulations.

II.

SUGGESTED BY-LAWS OF THE SECTION ON ——— ——— OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

I. Status.—This organization shall be the Section on ——— of the Medical Society of the District of Columbia, organized and operating as a component part of this Society under the provisions and restrictions of its Constitution.

II. Object.—The object of this Section shall be the scientific presentation and consideration of subjects relating to ———, the general advancement of that department of medicine, and the social intercourse of its members.

III. Meetings.—1. This Section shall hold regular meetings, for the transaction of business and its scientific and social proceedings, at such place as may be fixed upon, on the ——— of each month from October to May, inclusive, beginning at eight o'clock P. M.

2. This Section shall conduct the scientific proceedings at such regular meetings of the Medical Society of the District of Columbia as may be duly arranged for.

3. Special meetings shall be held as may be ordered by the Section or its executive committee, or upon the written request of any six members.

4. Due notice of each meeting, with the contemplated business, scientific, and social program thereof, shall be sent to each member.

IV. Membership.—1. The members of this Section shall consist of such active and associate members of the Medical Society of the District of Columbia as may subscribe an obligation to be governed by these By-Laws and who conform to their requirements.

2. The business of this Section shall be conducted exclusively by such of its members as are active members of the Medical Society of the District of Columbia; the associate members shall have the right to participate in the scientific and social proceed-

ings of the Section, but not to vote on business matters or hold office.

3. Fifteen members present shall constitute a quorum for the transaction of the business of this Section.

4. Resignations of membership in this Section may be accepted at any regular meeting after having been presented at a previous regular meeting; but no resignation shall be accepted from any member who is under any indebtedness to the Section.

5. All members two years in arrears in the payment of dues or assessments shall, unless these are remitted, be dropped from membership in this Section.

6. Any member of this Section guilty of outrageous conduct may, after investigation and report by the executive committee, be expelled, suspended, or otherwise disciplined, upon a concurrence of two-thirds of the votes cast at any regular meeting, after due notice of the proposed vote shall have been sent to all the members.

V. Officers.—1. The officers of this Section shall be a chairman, a vice-chairman, a secretary and a treasurer, who shall be elected by ballot at the ——— regular meeting in December of each year, to serve during the following calendar year.

2. The duties of these officers shall be such as usually pertain to their respective offices.

VI. Executive Committee.—1. An executive committee of this Section shall be maintained, consisting of the four officers, and of three other members, who shall be elected by ballot at the ——— regular meeting in each December, and shall serve during the ensuing calendar year.

2. The executive committee shall arrange for the programs of the meetings and in general oversee and guide the operations of the Section.

VII. Dues.—Annual dues of —— dollars shall be paid in every January by each member; and special assessments may be levied at any regular meeting after due notice of such proposed action shall have been sent to the members.

VIII. Order of Business.—The following shall be the order of business for the meetings of the Section, subject, however, to temporary modification by majority vote: 1. Call to order; 2. Reading of minutes of previous meeting; 3. Reports of officers and committees; 4. Election of officers; 5. Miscellaneous business; 6. Introduction of visitors; 7. Presentation of clinical cases and pathological specimens; 8. Essays; 9. Adjournment; 10. Social session.

IX. Rules of Order.—The parliamentary procedure of this Section shall be governed by Robert's Rules of Order.

X. Essays.—No papers shall (without permission) be read before the Section that have been elsewhere read or published.

XI. Amendments.—Amendments to these By-Laws may be adopted by a favorable concurrence of two-thirds of the votes cast at any regular meeting, after having been proposed in writing at a regular meeting at least one month previously and a copy thereof been sent to all the members with a notice of the meeting at which their adoption is to be voted on.

Vol. XII. MAY, 1913. No. 3.

WASHINGTON MEDICAL ANNALS

CONTACT POINTS BETWEEN OPHTHALMOLOGY AND GENERAL MEDICINE.*

By Hiram Woods, M. D.,

Baltimore, Md.

Mr. President and Members of
The Medical Society of the District of Columbia:

The invitation to be your guest this evening was one I could not resist. I have felt for a long time that there should be a closer union between the eye men of Washington and my own city; that it would be profitable to have at least one joint meeting each year, possibly at one of our hospitals, and I venture to hope that your kind invitation to me may bring about such a result. Dr. Wilkinson asked me to select a subject "pertaining to the eye which will be of interest to the general practitioner as well as to the specialist." Such subjects have been pretty well exploited, and instead of choosing a single scientific theme, I have thought it might be profitable to review the practice of Ophthalmology 25 or 30 years ago and the same practice today; to note the influences which have produced the changes, and to gather such lessons as we can from the study. The ophthalmologist realizes now more than ever his dependence on general medicine and his responsibility in dealing with what may superficially look like "only an eye case." I believe, too, that there grows out of this a duty for the internist to keep alert to the teachings of ophthalmology, first, because they have real diagnostic value for himself, and, secondly, because they indicate lines along which he can help his professional brother working in a special field. If I draw largely on my own experience and observation, it is not because I deem them more valuable than others have had. On the contrary, I know they are not. I have personal friends whose early training I envy. Their environment gave them opportunities which I, and a great many others, had to create for ourselves. They were not hard to create, or, more properly, find; for when sought they were right at hand. Only it took experi-

* Read before the Medical Society of the District of Columbia, March 12, 1913.

ence to show what we needed. In a way we were victims of over-specialism; not that we were ever in danger of becoming over-expert; but that it took us some time to learn that the man who builds a fence between his own little acreage and the rest of the medical world does so at his own peril. Sooner or later he will have to get over, under, through or around this fence, or take it down altogether. It is the latter process which has been going on for the past decade or two, and the champion wrecker of artificial distinctions has been the increasing appreciation of pathology as the basis of all medical thought.

A quarter of a century ago clinical ophthalmology was divided, largely as it is now, into local lesions of the anterior segment and adnexa, surgery, refraction and ocular results of remote disease. It will pay to study the mental attitude of the then ophthalmologist and physician to each of these divisions. Blepharitis, recurrent conjunctival hyperaemia, phylctenular ophthalmia were essential diseases in the sense that their local diagnosis was sufficient. Their connection with refraction errors was recognized, but that was about all. There were, as I recall, but two lesions of the anterior segment which called regularly for systemic treatment. Interstitial keratitis in a child meant hereditary syphilis. If family history confirmed, so much the better; if it did not, it made little difference. We had no Wassermann, and relied on clinical evidence. One of my earliest impressions in medical heterodoxy was disbelief in the doctrine that, because a child had an eye disease known to be usually caused by hereditary lues, the presence of this eye lesion justified the inference that the parents had handed syphilis down to the next generation. Another was that good therapeutic result from the exhibition of iodide of potash made the diagnosis of syphilis certain.

Whether this wandering from the beaten track was proper or not, we know there are children afflicted with keratitis who do not do well on mercury, and who, in course of time, develop evidences of tubercular disease; that when mercury is stopped and treatment for tuberculosis (dietetic, climatic, etc.), is introduced, the eyes recover. However, with reference to this special eye lesion, there is reason to fear that even now oculists, after curing a case of specific *interstitial keratitis,* do not always see that the child goes where he can be cured of the systemic infection. Relapses are still all too common. The other lesion of the anterior ocular segment, which always received systemic treatment was *iritis.* Specific history or presence of a gumma decided one form of treatment. When neither was obtained the reasoning was a little curious. Indeed, this curious reasoning is still seen in our textbooks. I allude to diagnosis of "rheumatic" iritis. I doubt if an oculist with average practice has seen in his life more than two or three cases of iritis in the

presence of, or soon after, attacks of acute articular rheumatism, or more accurately, arthritis. When gonococcic infection was the primary lesion, followed by gonorrhoeal rheumatism and iritis, the latter was attributed to rheumatism. When no arthritic history could be obtained, almost any muscular soreness sufficed for a rheumatic diagnosis. The benefit from large doses of salicylates was thought confirmatory. So much for the oculist's side. As to the general practitioner, it is doubtful if a considerable minority thought of systemic causes of inflammatory eye diseases. At present the lid and conjunctival troubles mentioned arouse suspicion of infection from lacrimal apparatus and nose; of intoxication from the digestive tract; of unrecognized tuberculosis, etc. The so-called rheumatic ocular troubles make us first think of the causes of muscular sensitiveness; for, outside of gonorrhoeal cases, joint involvement in iritis and scleritis is very rare. Suggestive evidence is at hand that iridic or episcleral inflammation, not clearly results of syphilis, tuberculosis or gonorrhoea with or without intermediate joint disease, are akin to the fibrous deposits sometimes found in the skin.

In a word, the oculist of today, if he wants to get down to the cause of some of the formerly "simple eye" diseases, has to consider many obscure general troubles which he never took into consideration years ago; and, on the other hand, if the internist will pay attention to recurrent eye lesions or discomforts in his patients, he may get a clue to general conditions which would otherwise escape him. In this connection I recall a remark made to me some years ago by Dr. Gruening in New York. Papers had been read at the N. Y. Academy, on various unrecognized causes of choroiditis. Dr. Gruening said later that a great deal of this apparently new stuff was definitely hinted at in the very old books; that writers had not sought far enough back. I looked into Mackenzie, Baer and other old authorities after I came home, and was surprised to see how near the truth these men had gotten by experience and the deductive reasoning upon which they depended. Bacteria, toxins, antibodies, etc., were unknown to them; but powers of observation, association of systemic and local condition, acute reasoning from these associations brought them pretty close to the right therapeutic path.

Professional attitude toward *ophthalmia neonatorum,* then and now, deserves mention. It was estimated that this disease caused about 25 per cent. or more of blindness. Yet so favorable was the prognosis then, as it is now, under one and the same treatment, that if a man lost a case it was up to him to explain the loss. We saw more blind babies then than now. Why? To my mind, because for several years past we have taken pains to secure laws compelling midwives to report cases; have had them arrested if they did not, and they are learning their lesson. Again,

physicians are more appreciative of dangers. Twenty-five years ago the state of professional thought was, generally speaking, of exclusive nature. The specialist treated the cases and cured them usually if they came in time. The general practitioner, if he appreciated danger, let the specialist do it. If he did not, the eye often was lost. Blind babies went to blind schools. Doctors accepted the logic of events. The big doctrine of *conservation* was slow in gaining foothold. Yet as far back as 1876 Credè had shown how to prevent the disease. How long it took the majority of obstetricians to wake up to the fact, and to realize that certainly in dispensary and maternity practice Credè's method should be a routine, you all know. Even now there are men who will endorse a remark made in one of our State meetings not over three years ago: "I can't see any sense in using nitrate of silver in the well eyes of a new-born baby." Replying to a question, the speaker had seen sloughed corneae, and the specialist had been unable to cure. Apparently the speaker had never thought of his own responsibility in allowing a case to reach this condition.

The baby was being nursed, and the mother could not leave home when the child's eyes became infected. As soon as she was able, mother and child went to an oculist. I don't criticise this man uncharitably, for he was but a product of the *exclusive-specialism* conception of his formative period. He reasoned correctly from the maternal side, and to an extent, at least, from the baby's; for nursing helps the prognosis immensely. He did not know what to do for the baby, and he had not posted himself because he never treated eye diseases. They belonged to the specialist. Yet we know that men, then our own teachers, were indefatigable in trying to impress the lessons this man needed. Why had he failed to get them? He attended his State society once a year, and might have heard the message again and again. Have you ever at a general meeting seen the chairs suddenly empty themselves, and overheard a remark like this: "The next is an eye paper; let's go out and take a smoke?" That's the state of mind which has sent children to blind schools. And, unfortunately, the physicians who have assumed this attitude to a specialty are usually the very ones who need *some* knowledge, because their environment compels them to see all kinds of cases. There is no greater honor to his profession than the country doctor who, without the advantages of his city confrère, keeps abreast with medical progress. He knows that he has to meet emergencies with his own resources. A trained nurse, sterile dressings, hospital facilities, which many of us can command at a moment's notice, are not his, unless he makes them himself. And he deserves infinite credit for doing so. His life is hard and remuneration little. But this very environment should induce

him to learn at least the rudiments of diagnosis and treatment in special fields where promptness makes such tremendous difference.

There is a feature of this baby blindness which social workers are uncovering and which demands careful study and legislation. I allude to the unwillingness of parents to allow babies to be sent to hospitals. One of the strongest forces we have in Baltimore for saving sight is the Blind Workers' Society. It goes beyond mere help for the blind, and aims to find cases which can be saved. Its secretary tells me that their visitors are constantly finding infectious eye diseases in families; that the ignorant parents refuse to allow application of proper treatment, and that there is no law to reach them. In my opinion, we should have laws compelling parents to give infected eyes proper treatment, just as we have laws applying to general infectious diseases.

I presume that if there is any one field in ophthalmology upon which the general practitioner feels that he can conscientiously retain ignorance, it is refraction. To an extent, he is right. Claims have been made from various sources that he ought to be able to work out the so-called simple errors—such, for instance, as the optician prescribes for successfully. He could easily do this, were the diagnosis between simple and complicated cases always evident. The optician takes upon himself the responsibility of differentiation. He finds a refraction error, corrects it, and if the case be "simple," all goes well. But how often he is mistaken; how frequently he puts myopic glasses on farsighted children; how constantly the optometrist—as he now prefers to be called—lulls a man into a feeling of safety by removing his double vision with a prism, when he is suffering from a paretic muscle (full of significance to him who reads correctly)—these are facts which every oculist knows. There are two attitudes of general practitioners to this refraction question: one class realizes the technical nature of refraction work, and holds off; the other still has no appreciation of it, and actually advises patients to go to an optometrist. This latter class it is which is largely responsible for the dangerous optometry legislation which many of our States have enacted. Opticians go to legislatures seeking legal recognition as a profession, and claiming that use of drugs is unnecessary. Before doing so they write to physicians generally asking endorsement of their efforts to elevate the standard of optical education. Physicians fall easily into the trap unless they are posted on the medical side of refraction work. A few oculists go before a legislative committee and find themselves confronted with a pile of letters from physicians endorsing the opticians' claims. The specialist hears himself accused of opposing this legislation because

of financial reasons. Endorsement of optometry by physicians who are not oculists lends support to this accusation.

In passing, it may be said of this financial argument, and omitting any consideration of the patient's welfare, that the hardest work the oculist has to do in refracting is for young persons abused by opticians' ignorance. They *make* work for the careful oculist, and it can be safely said that but for them the financial burden to parents would be less than it is now. Some of the things we know now better than we did years ago are that knowledge of refraction under complete paralysis of the ciliary muscles is a necessary base for proper treatment in children; that dilatation of the pupil by drugs does not mean ciliary paralysis; that medical observation of a child apparently in need of glasses often shows that this need is fictitious; that the therapeutic rest afforded by ciliary paralysis is often curative of asthenopia without the additional use of glasses; that Nature often provides a child with adequate means of carrying safely his own refraction error; that physical ailments, unhygienic environments, etc., often have more to do with a child's eye pains than the refraction error. Let me mention just one illustrative case. I tried for two years to enable a girl from 14 to 16 to study comfortably. She went to others with like results. Of course we put our failure into that huge receptacle—hysteria. Then she developed a little interstitial cloud in her cornea, and we found a definite history of syphilis in the family. That was ten years ago, and I did not appreciate then as I do now the *functional* results of certain diseases *most* apt to cause organic changes. Two years of constitutional treatment cured, and glasses had not. The lessons from this brief review are clear: oculists are learning that their refraction cases demand constitutional study; that this is *always* necessary, and not merely when there is history of recent illness. Physicians, who have not already done so should learn that pain in use of the eyes is both a medical and optical problem; that the man to study the case is not one whose sphere is limited to discovery of a manifest refraction error and its correction, but one who can add to this adequate consideration of systemic conditions.

The study of ocular function and use of the ophthalmoscope in general diseases have long been insisted upon. Yet few are the general men who apparently appreciate either. There are things to be said for the general man in this connection, too. A complete paralysis of an eye muscle, an Argyll-Robertson pupil, failure of vision in a patient known to have some systemic disease are, and for years have been, considered by the careful internist. He has usually asked his eye associate to help interpret them. Barring the first two, what has he usually obtained? Diagnosis of choroido-retinal disease in syphilis and tuberculosis,

retinitis in chronic nephritis, field impairment in various degenerative lesions of the central nervous system constitute the bulk of information he obtains. And do these help him much in treatment? Intraocular lesions of syphilis and tuberculosis when the diagnosis has been already made, give him little helpful information. Albuminuric retinitis has meant, and still means therapeutically little more than that the time has come for the patient to put his house in order. Add to this lack of helpfulness in therapeusis the facts that *medical* opthalmoscopy is the hardest part of intraocular examination, that the best of us often have to search hard and long to find a significant fundus lesion, it is hardly fair to blame the internist if he does not become enthusiastic over ocular signs of remote diseases. But conditions have changed today. Intracranial surgery has advanced to a point where almost miraculous results are obtained. Nothing helps the surgeon more than the eye findings. Dr. Wilmer stated in a paper some years ago that a blood-pressure apparatus was as necessary a part of an oculist's equipment as a trial case. I knew it was when he was considering operation for glaucoma, cataract, etc.; but until I found out for myself, I had no idea of the extent of its helpfulness.

I believe that with the aid of careful ophthalmoscopy, blood pressure tests, etc., it is often possible to make a diagnosis of a prealbuminuric stage of nephritis; that ocular signs of arteriosclerosis are available before anything but the eye will unfold the truth; or, at least, that they indicate the proper line of investigation. Failure of vision does not precede these eye conditions. Sight may be perfect, and yet minute hemorrhages, thickening of vessel walls, etc., will tell the story. The oculist discovers them accidentally when making an opthalmoscopic examination, the patient having consulted him for discomfort in reading, headache, dizziness, etc. Apart from such suggestive evidence in the eye fundus, the oculist not infrequently is confronted with negative findings which mean a great deal. For instance, a patient of thirty or so, a hard worker in his business, has eye pains or headache. The former take him to an oculist. No refraction error is found, or its correction does not help. What is the specialist to do—give him a negative diagnosis or try to find *why* the eyes hurt? If he adopts this plan, the teeth, nostrils and sinuses are considered. When normal, it is only right to put the patient where he can get not alone the average clinical survey but where all possible can be learned of his metabolism. We do not know very much yet about the eye results of defective metabolism. It is hard to absolutely prove the relation of cause and effect; but we have certain clinical associations which mean a great deal. I have seen and reported elsewhere cases like this: industrious men and women with poor eye endurance;

nothing in the eyes to account for it. Sallow complexion, possibly bad odor of breath, bowel irregularity, etc., have led to a consultation with a laboratory man. Again, there were no intestinal symptoms gross enough to attract my attention; but a routine examination of metabolism, made just because I could find no explanation, has shown the cause, and dietetic treatment has done the rest. In a recent paper in the *Journal of the A. M. A.,* Van Norden laid stress on obscure affections of the sensory nerves as indicative of intestinal decomposition. Place this relief of eye and head pains by dietetic regimen against what pathologists are thinking about arteriosclerosis and defective metabolism; add the fact that laboratory reports in vascular fundus changes and these functional eye disturbances are similar, and almost the same diet regulations are instituted; and it does not seem going very far afield to suggest that persistent eye discomfort has an important meaning to the internist, and recognition of its systemic cause is of possibly vital interest to the patient. Proper appreciation by the internist of possible clues of this kind might save a great deal of empirical treatment, ending often in failure or the establishment of the coal-tar habit in his patient. Of more importance, it might make a diagnosis at a time when something could be done. Tendency to neglect the eye in general diagnosis can be found even in recent graduates of our best schools. They have been through the eye courses, and have had special ophthalmoscopic instruction, whatever it amounts to. In a hospital conversational room they will talk of the Argyll-Robertson pupil, ocular signs of hyperthyroidism, nystagmus in multiple sclerosis, etc. But meet one of them in the ward, where a neurological confrère has summoned you to examine an eye for him, consult the notes made by a really bright fellow, and you find most everything but ocular symptoms. He did not think of them. A grave error in our teaching is that most of our schools introduce clinical ophthalmology during the fourth year, at a time when men's minds are on the diploma problem. There is time only to review common eye diseases, and barely that. The exigencies of the last few months are not conducive to clear thinking in a new branch. What they learn is apt to be a cram, and not an integral part of their medical thought.

Ophthalmic surgery can, in a review like this, be passed over briefly. It is rightly left to the specially trained operator. I question if any of us would claim better general results than our teachers secured. We undertake now with confidence what formerly filled us with forebodings. Modern antiseptic treatment of wounds has saved eyes otherwise doomed; sympathetic ophthalmia has become a rare disease. Progressive corneal ulceration is manageable if gotten at soon enough. We can differentiate

the purulent conjunctival cases needing nitrate of silver from those which will be harmed by it. We know how to save plastic flaps which were lost under former conditions. But it is worth while to ask how much we have gotten from antisepsis in such eye surgery as cataract extraction, pterygium, strabismus, etc. I should say a great deal and a very little. The former because we understand the reasons for certain conditions, know how to secure them and know we must secure them; the latter because study of the principles of antiseptic surgery, as applied to the eye, has taken us back to the requisites advocated years ago by Knapp, Noyes, Norris, Chisolm and others. As I recall these requisites for successful eye surgery, hammered in by my own revered teacher, Julian J. Chisolm, they were: keep away from an eye with pus about it; use as little traumatism as possible; or, to quote his own words, "get done as quick as you can;" see that you and your instruments are clean. Save for knowing why these are necessary, and how to insure cleanliness, in its modern sense, have we gotten much farther? Anatomical relations make it impossible to sterilize the operative field in eye surgery or to eliminate the danger of reinfection. Antiseptic solutions strong enough to kill bacteria produce hyperaemia of eye tissues, and hyperaemic eyes do not stand operation well. ESSENTIALS were taught by men trained before the general acceptance of antisepsis. We are as dependent as were they on observations and deductions; only we have, what they had not, a scientific and impersonal basis for our thinking. Pathology has given it to us.

In the foregoing I have tried to show that in the field of eye diseases pathology has changed the oculist's standard of thought; that the same is true in his refraction work; that it has safe-guarded certain fields of surgery, and to both oculist and internist has brought out of eye conditions numerous valuable lessons. It has done more. Modern medicine has developed along preventive lines. Conservation permeates medicine just as it does forestry. It is as important to conserve physical as material assets. In eyesight one line of conservation has already been indicated—saving the babies. Legislation can accomplish a great deal, but education can do more, and in this the general practitioner must take his part. He reaches the people as the specialist cannot. Study of the midwife problem shows that very few American white women go into the business. Without governmental regulation as it exists in European countries, with provision for midwife education, there is no standard save what these women make for themselves.

The foreign midwife soon reaches the American level of carelessness and dirt. Our attempts in Maryland to provide education have failed, because the women themselves do not want it. If

the State laws are enforced, death of the present generation of midwives will likely go a long way toward solving the problem. But in the meantime physicians and social workers can do a great deal by teaching that there is no need, at least in cities, for the midwife; our hospitals afford better facilities if poor women will avail themselves of them. Here is the chief difficulty. Childbirth is regarded as essentially a home matter, irrespective of environment. Under auspices of branches of the Woman's Christian Association, Women's Guilds, etc., a great deal has been accomplished in Baltimore by physicians who have been willing to give a little time to public education. The task of breaking down popular prejudice is large but not insurmountable, if there can be brought about a union of the forces for good. In another field, which touches children, school examination of visual acuity at the beginning of school life is uncovering refraction errors which need correction. Here, too, is a source of possible error, for unless parents have children's eyes examined by competent medical men harm can result. Home environment needs study as much as physical conditions. If conservation is to amount to much, every hospital will have to organize its social visitor department. What is true of eye conservation applies equally to other departments, and all can be worked together. To my mind one of the most important lines of school reform, from the eye point of view, is a modified curriculum for children with defective vision. In most States there is no medium between the regular course of instruction and the blind school. Children with corneal clouds and other lesions which reduce vision to one-third or one-fifth cannot safely take courses designed for children with healthy eyes. Another reform sadly needed in all but the most modern school buildings, and in some of them, is regulation of light, desks, etc.

I cannot do more than touch on different lines of possible conservation. Toxic blindness opens an enormous field for work. I fear there is reason to believe that we are again threatened in this part of the country by wood-alcohol blindness. I have seen three cases in the past few months, and did not previously see one since the damage suits in Baltimore ten years or more ago. Accidental loss of eyes or "industrial blindness" has received careful study by many of the large railroads and other corporations. The U. S. Steel Corporation has installed protective devices in its foundries, and takes infinite pains to instruct its employes in prevention. The corporation's bulletins are full of instructive data. Thus, conservation includes many forces: captains of industry, social workers, philanthropists, nurses, physicians. These forces must be correlated, and the work organized. At the next meeting of the Ophthalmological Section of the American Medical Association, conservation will

receive careful study. Already in many States there are societies for the prevention of blindness.

Mr. President, there is, I think, in such studies as this, one common lesson for all of us. In every line of medical work there is abundant room for the best thought of which any of us is capable; but this takes us away from, rather than toward, sharp lines of demarcation between specialties and general medicine. As we get down to causes, and as we try to learn how to prevent what we cannot cure, we come unconsciously nearer one another; we feel that the Fraternity of Medicine is not mere sentiment but a reality; its object, physical, mental and moral soundness; its path, patient investigation, study of mutual relations of knowledge, and all based on reverence for, and gratitude to, those who have gone before us.

Dr. Butler said that surely all present would agree with the opinions expressed by Dr. Woods. In the George Washington Medical School, the chair of ophthalmology has consistently taught the importance of the general, systematic aspects of ophthalmic diseases. Dr. Butler had read with intense interest some time ago a paper by Dr. O'Conner, entitled "Some uncultivated fields of ophthalmic knowledge," in which it was strongly insisted upon that medicine is but one large domain of general knowledge with many small fields within it. He endorsed the remarks made by Dr. Woods upon the tendency to too great refinement in specialism.

Dr. Shute was also much interested in and grateful for the paper. His remarks would necessarily be only illustrative of the principles laid down by the essayist, being the narration of three cases. (1) The wife of a physician came to Dr. Shute for the relief of an acute pain in the eye; her glasses were found to be correct and no ocular disease was made out; the condition of the teeth was inquired into, and the patient said that a competent dentist had examined them recently and had found them all right. Examination by another dentist subsequently revealed an ulcer under a gold bridge, which explained the ocular pain and led to its relief. (2) A girl of 14 years had been referred to him by Dr. D. Olin Leech. Sometimes she was unable to read; at others she could read perfectly well. Examination of the urine showed that she had diabetes, illustrating the effect of the toxins of diabetes on the muscles of accommodation. (3) A young man of 35 years sought relief for failing vision; tests showed that his vision measured only 6/60; no lenses gave any relief. The ophthalmoscope showed that he had typical albuminuric retinitis; he was referred back to his family physician, and in spite of the most skilful treatment he died in six months. Dr. Shute cited these cases to show how subtly generally systematic diseases may affect the eye.

Dr. O. Wilkinson had long since concluded that the better that oculists are fitted for general practice, the better specialists they will be. There is more and more coming to be a general appreciation of this fact to the mutual advantage of the public and the profession.

Dr. Muncaster said that the general practitioner does not realize how impossible it is for the optician to examine children's eyes correctly, because the optician is not allowed to use a mydriatic. This explains why so many cases are met with in which an optician has given a *minus* glass when a *plus* glass is needed. If this point were more generally understood the practitioners would not be so apt to send their patients to the opticians.

Dr. T. A. Williams said that much had been said about systematic conditions manifested by ocular signs; we all recognize the facts in general, but not all are able to apply the methods of examination necessary to recognize specific instances. This condition of affairs would largely be rectified if the ability to use the ophthalmoscope were more general among practitioners; the recognition of the more gross lesions of the eye with the ophthalmoscope is simple, and sufficient skill for its use is easily attained. It seemed to him important to keep in mind that the eye is only an end organ of a nerve tract, which, beginning at the retina passes up through the central nervous system to the visual centers in the occipital lobe; and that anywhere along this tract vision may be interrupted, while it often becomes a very difficult neurological problem to determine the exact site of the interruption. Also it must be remembered that the ocular muscles may be affected by an ophthalmo-neurological trouble. And it is just in this type of cases that the optometrists may do incalculable harm, and medical men should unqualifiedly oppose the practice of ophthalmology by incompetent men. And even competent ophthalmologists need a word of caution, since he had seen a number of cases in which the oculist had given a prism for the relief of a diplopia of central origin.

Dr. Carr felt, with Dr. Woods, that no medical man can profitably narrow himself to any special field in the way that many have done. Dr. Carr condemned the tendency of many physicians to remain away from the Medical Society because the titles on the program are not attractive. He believed that he had never attended a meeting of this Society without distinct profit in additional information. What had so truly been said tonight of ophthalmology is true of the other specialties; and if papers are made untechnical, so that they can be readily understood by the general practitioner, the frequent presentation of various special subjects can be productive of much good to all.

Dr. Hiram Woods said that he must plead guilty to Dr. Williams' indictment: oculists do sometimes prescribe prisms for diplopia when the trouble is inside the cranium; but some-

times the shoe is on the other foot; and his paper had been directed against the inevitable tendency to think in terms of the customary special branch of work. He expressed his thanks for the invitation to address the Society and for the cordial reception which had been given his paper.

HERMAPHRODITISM; SPECIMENS.*

By D. S. Lamb, A. M., M. D.,

Washington, D. C.

Dr. Lamb made some remarks on hermaphroditism, stating that if we accept the definition of Ahlfeld we should have functionating sexual glands of both sexes with excretory ducts present in the same individual. Under this definition there is no case of true hermaphroditism in the human subject as yet reported; in fact none in any vertebrated animals; and in the invertebrates but few above the grade of the cestode, nematode and trematode parasites. The literature of the subject is extensive, but consists mainly of reported cases. There are many reports of cases of *pseudo*-hermaphroditism, nearly always in the male, the testicles undescended; the external organs female. Also cases of *lateral* hermaphroditism, a testicle on one side, an ovary on the other.

The following specimens from the Army Medical Museum were shown:

1. A specimen and cast of the same showing a scrotum which is empty, a penis, and internal organs of the male sex; namely, two testicles which had remained in their original position in the lumbar region, two vasa deferentia connected with the testicles and at the other end emptying into the prostatic urethra; the prostate was normal. What were supposed to be ovaries were found on microscopical examination to be simply masses of fatty tissue.

The subject from whom this specimen was obtained at a post-mortem examination at the Cleveland (Ohio) Medical College was a man, age 28 at the time of his death; his form was masculine except that the pelvis was of the female type; the mammæ were male and he had a moderate beard. His habits were solitary and he disliked women. The peculiarly interesting feature of his case was the fact that once a month he had a bloody discharge from the urethra which was very painful. In one of these periods he died from cerebral hemorrhage.

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* Presented to the Medical Society, February 19, 1913.

This case was published in the *Amer. Jour. Med. Sci.,* July, 1853, page 63, as one of true hermaphroditism. The next month it was reported also as a true case to the Boston Society of Medical Improvement (see the same journal, October, 1853, page 366). Dr. J. B. S. Jackson, of Harvard Medical School, after examining the specimen, doubted if the so-called ovaries were really ovaries, and his opinion was published in the records of the Boston Society for Medical Improvement, volume ii, 1856, page 98, and also in Wharton and Stillé's Medical Jurisprudence, 1860, page 391. Finally the specimen and cast were sent to the Army Medical Museum in 1871, and a microscopical examination was made of the so-called testicles and ovaries by Dr. J. J. Woodward, U. S. Army, then in charge of the Medical Section of the Museum, and by Dr. E. M. Schaeffer, of this city, who was then Microscopist to the Museum. They found the testicles, but in the so-called ovaries found only a fatty tissue. It was concluded therefrom that the individual was male with undescended testicles. I may add that in many other cases in which it has been stated that testicles and ovaries were present in the same individual, the microscopical examination was not made, or if made, it was ascertained that what were supposed to be ovaries were simply fatty tissue, and Graeffian follicles could not be made out.

The results of the examination of the specimen at the Museum were published in the *Amer. Jour. Med. Sci.,* vol. lxii, 1871, page 123.

2. A model in wood showing a woman with enlarged clitoris. Called a hermaphrodite; no further history.

3. A specimen of the pelvis of a pig about 20 months old. The bladder and prostate are normal; the urethra is feminine; the testicles (in the abdomen) are large and normal, and the excretory vessels also. The external organs are distinctly feminine. The owner of the pig stated that its sexual inclinations were bisexual. This specimen was shown to this Society in 1905, and the fact published in the ANNALS of that year, page 46. This case is one of the kind called pseudo-hermaphroditism.

4. Specimen of tapeworm of beef, *taenia saginata,* showing both male and female sexual organs in the same individual.

A POSITIVE INDICATION.—Boyd is a bright little fellow of three years. One day his mother observed him vigorously scratching his head, and asked:

"What makes you scratch your head?"

"Because I'm the only one that knows it itches," he replied quickly.

THE USE OF QUININ AND UREA HYDROCHLORID AS A LOCAL ANESTHETIC IN ANO-RECTAL SURGERY.*

By Llewellin Eliot, M. D.,

Washington, D. C.

In presenting quinin and urea hydrochlorid, as a local anesthetic the relative merits of all anesthetics and a choice of an agent will not be discussed, as my object is to lay before you my experience with it in ano-rectal surgery.

The efficacy of cocain, eucain, alypin, stovain, novococain, chlorotone and sterile water cannot be questioned as local anesthetics. The adoption of the agent is a matter of individual preference, or a chance emergency. In my own work the changes have been rung upon nearly all the local agents, but quinin bimuriatica carbamidata has afforded me most satisfaction.

Individuals seeking advice for relief from rectal troubles have reached their determination after long struggles with a hope deferred, and are willing to submit to any operative treatment, intelligently suggested. The questions of pain, confinement to bed, loss of time, and, most important, the taking of a general anesthetic, are paramount in their minds, and have caused them to delay active treatment.

The glaring advertisements in circulars and in the daily papers, which invariably promise positive cure without pain or loss of time from business, catch the eye, so that these specialists are most frequently sought for relief.

There should be no good reason why physicians should be unable to do the same things these men promise, although it is true their line of work is principally confined to hemorrhoids, fissures and other troubles which can be treated in the office. The only reason I can advance for this condition of affairs is the distaste which physicians have for the treatment of this class of diseases; they generally prescribe some form of local treatment, washes or ointments; therefore, the sufferers will seek those in whom they think confidence can be placed.

Thibault, in a paper published in the *Journal of the Arkansas Medical Society* of September, 1907, called attention to quinin and urea hydrochlorid as a local anesthetic, and recommended a solution of 1 per cent. for local hypodermic injection and one of 10 per cent. to 20 per cent. for applications to mucous membranes. It is, nevertheless, true, that the anesthetic properties of quinin had already been noted by Griswold in a paper in the *Buffalo Medical Journal*, August, 1906; still to Thibault is due the credit of popularising the newer preparation.

* Read before the Medical Society, February 26, 1913.

Experiments by Hertzler, Brewster and Rogers showed that the anesthesia of a 1 per cent. solution would continue for from four to six hours, but that there would be a delay in union of cut surfaces, in some cases. This delay is the result of an exudate about the region of the needle puncture; the ½ per cent. solution caused less of this exudate, while the 1/6 per cent. solution caused only a trace of it. The anesthesia from a 1 per cent. and from a ½ per cent. solution was complete, although the ½ per cent. solution required a longer time before anesthesia was thoroughly established; the 1/6 per cent. solution required a still longer time. The stronger the solution the greater the exudate or induration.

The duration of the anesthesia from quinin and urea hydrochlorid will vary up to several days; this is a distinct advantage, since it will allow a change of dressings free from pain.

The amount required is ordinarily half to two drachms, but four drachms may be given, as the solution is non-toxic.

A quick puncture with a sharp needle is almost painless, still a spraying with ethyl chlorid or touching the point of injection with a drop of carbolic acid will be effective in preventing the pain of the puncture.

Some writers have been at great pains to describe individual technic in the manner of giving the injection, but, in my opinion, any one who understands how to give a hypodermic injection is not in need of instruction in this matter.

A solution may be sprayed upon a mucous or any abraded surface with good result.

When we are ready for work, the part should be first washed with an antiseptic; that goes without the saying. I use a 1 to 1,000 solution of iodide of mercury; this is followed by washing with sterile water, and then an alcohol compress is applied. The anesthetic may be given before this dressing, should one desire it, as in this way some time is saved. It will be necessary to wait sometimes even thirty minutes before complete anesthesia is established; usually less time elapses.

Following the operation we will, in some cases, see an oozing of blood. This can be generally avoided by compression, suture, or the application of a solution of adrenalin; this oozing, however, seldom amounts to anything.

Local anesthesia will sometimes deceive us and permit the doing of an incomplete operation, but one soon learns to judge in this matter. It is also contended by some general surgeons that sufficient dilatation of the anal sphincters cannot be made under local anesthesia. I grant that this is true in some cases, but my experience leads me to differ with their claim. I find little or no difficulty in getting proper dilatation.

During the past few months I have operated under quinin and

urea hydrochlorid anesthesia in several instances: Peri-anal abscess, 3 cases; removal of hypertrophied papillae, 4 cases; internal and external hemorrhoids, 4 cases; fistula-in-ano, 5 cases; external hemorrhoids, 6 cases; internal hemorrhoids, 10 cases; total, 32 cases; and I have seen no reason to regret the choice of the anesthetic, although I am in favor of chloroform as an anesthetic in all operative work.

The conclusions I advance are:

1. Quinin and urea hydrochlorid is the safest local anesthetic;
2. It is applicable to the performance of the majority of rectal operations requiring an anesthetic;
3. The anesthesia is complete;
4. The anesthesia is prolonged;
5. It gives best results in a ½ per cent. solution;
6. One must never hurry or become impatient if the anesthesia is slow.

Quinin and urea hydrochlorid is a double salt of quinin and urea made by dissolving quinin hydrochlorid in hydrochloric acid, adding pure urea, filtering the mixture through glass-wool and allowing it to crystallize. It is soluble in its own weight of water and in alcohol (*Journal, A. M. A.*, May 14, 1910, Vol. liv).

The only unpleasantness which may attend this anesthesia is the usual effect of quinin in subjects who have an idiosyncrasy towards that drug in any form.

On more than one occasion it has been necessary to suspend operative work with cocain, on account of the overaction of the anesthetic, causing oppressed breathing and other evidence of susceptibility, and then continue with the anesthetic now under discussion. Freund's solution has also caused annoyance of a like nature.

Dr. Jack said that Dr. Eliot had stated the effects of urea and quinin hydrochlorid infiltration very fully, and his own experience with this agent fully corroborated Dr. Eliot's statements. Dr. Jack very early learned, however, to wait a long time before attempting to operate, the anesthetic effects being so slow in appearing. The anesthesia lasts for twenty-four hours and thus serves to prevent the postoperative pain.

Dr. Carr said that according to his experience two hours is required to get the full anesthetic effect of urea and quinin hydrochlorid infiltration.

Dr. A. F. A. King asked why the use of this drug is confined to ano-rectal surgery? May it not be used as well elsewhere?

Dr. T. C. Martin said that the value of any local anesthetic is to be determined only by comparison with other drugs with which we are familiar. In some cases the length of time re-

quired to obtain full anesthesia with the drug under consideration may be a serious objection, because of the opportunity for all of those psychic impressions to be made which under the teaching of Crile we now know to have so much to do with the causation of shock. The edema which follows the use of urea and quinin hydrochlorid infiltration is a disadvantage, and especially where plastic work is to be done. A few words need to be said on the technic of giving local injections of eucain and cocain for anesthesia; great skill is necessary in order to realize the full advantages of these drugs, and it is of the utmost importance that the infiltrating needle have a very long oblique point. In removing piles adrenalin should not be used with the cocain, as its effect is to obliterate the pile and confuse the operator; the use of eucain serves to accentuate the pile.

Dr. R. A. Hooe said that at the recent meeting of the Tri-state Medical Association he had heard with much interest a paper by Crile upon his theory of anoci-association in the prevention of post-operative shock. Dr. Crile stated that for local infiltration for nerve blocking he employed quinin and urea hydrochlorid solution with ¼ per cent. novocain.

Dr. Carr had used quinin and urea hydrochlorid in combination with nitrous oxid; the results had been very pleasing. The long-continued effect of the drug is often desirable; he had noticed in taking out stitches on the seventh or eighth day that in some cases enough numbness was still present to make this operation painless.

Dr. O. Wilkinson had seen reports of ulceration following the use of quinin-urea hydrochlorid; had Dr. Eliot met with any such unfortunate experience?

Dr. Eliot said that this anesthetic drug is gradually being adopted in general surgery and in some of the special lines, such as the surgery of the nose and throat. Wyeth abandoned its use because suppuration seemed to follow; Wyeth, however, used it in entirely too strong solutions. Dr. Eliot thought that the choice of a needle was a matter of indifference, provided that it be sharp. The edema which follows the use of the drug is proportionate to the amount of solution used. The danger of postoperative hemorrhage is no greater than after any other local anesthetic. He had met with but one inconvenience of importance attendant upon the use of quinin-urea hydrochlorid.

LITERALLY SO.—"Aren't you afraid you will catch cold on such a night as this, my boy?"

"No Sir. Selling papers keeps up the circulation."—*Guy Fledgby.*

CASE OF URETERAL ABSCESS.*

By Wm. A. Jack, Jr., M. D.,

Washington, D. C.

Mrs. L., age 27, American, housewife; family history negative from surgical point of view. Patient had mumps when 5 years old; good recovery. Diphtheria at 12 years; good recovery. Habits good. Married at 17; first child born at 18; birth normal; slow convalescence of mother, with chills at intervals. Second child born at 20 years; followed by similar trouble to that after first child. No other illness until 1911, when she had neuralgia of left ovary which disappeared after a few weeks' treatment.

About Dec. 20, 1912, she began to lose appetite; felt weak and drowsy especially when rising in the morning; became quite constipated and suffered much and often with headache, but was not confined to bed until about February 1, 1913, when she began to have severe cramping pains beginning in the epigastrium and radiating downwards and to the right. During these paroxysms she had to lie down for short periods. Feb. 3d she went to bed and remained there until Feb. 7th, when she was removed to Sibley Hospital. Feb. 3d and 4th the pain had been very severe and she had several chills; and Feb. 6th she began to vomit at intervals and continued to do so until the evening of the 7th. She then for the first time called a physician, and on his advice was removed to the hospital. On admission her temperature was 101, pulse 100, respiration 30; heart and lungs normal; marked rigidity in right lower quadrant of abdomen; extreme sensitiveness to touch; an ill defined doughy tumor was detected extending from one inch below and to the right of the umbilicus to the anterior superior iliac spine. The abdomen was opened and the tumor removed.

Dr. A. F. A. King asked what would become of the urine secreted by a kidney the ureter of which was ligated?

Dr. H. A. Fowler said that the origin of the abscess presents an interesting question, and leads to the conjecture whether there could have been present at the site of the abscess a stricture or stone. Abscess, he believes, can only occur in the presence of some such obstruction with secondary infection. Such an extraureteral infection is very uncommon because of the extreme resistance of the urinary ducts, both ureter and urethra, to infection from without their lumen.

He had published a case of empyema of the ureter in a patient who had been operated on by Dr. Balloch, the kidney having been opened and pus and a stone evacuated from its pelvis; the opera-

* Reported, with specimen, to the Medical Society, February 26, 1913.

tion having been prolonged, the ureter was left. Later this patient was referred to himself on account of continued pyuria. Cystoscopic examination showed that pus continued to be rhythmically extruded from the ureter and exploration revealed a calculus within its lumen; this being the ureter from the kidney long since removed, the case served to demonstrate that peristalsis occurs in the ureter independent of the kidney.

In Dr. Jack's case the etiology is very obscure unless there had been a foreign body with secondary infection. It is surprising that there were no symptoms of ureteral colic if in fact a foreign body did antedate the abscess. What was the character of the urine in this case? Unless the ureter was occluded there should have been pyuria, and in the presence of pyuria the diagnosis of appendicitis was not justified until the presence of the pus in the urine had been explained.

Dr. Balloch asked if any urine escaped when the upper end of the ureter in this case was severed? If no urine escaped, the explanation may be that there had been an obstruction which had continued long enough to cause abolition of the kidney function. The ligation of one ureter is not necessarily dangerous or fatal; he had had one such case [which he cited]. It would seem that if there had been long continued ureteral obstruction in Dr. Jack's case, there should have been found dilatation of the tube above the abscess. The specimen was surely unique.

Dr. Carr said that one of the most important points involved in this case was the relative merit of ligating the ureter or of removing the kidney.

Dr. Jack said that some clear fluid escaped from the proximal end of the cut ureter; he had sought to side-track the ureter but his efforts had been ineffectual and he had reluctantly ligated it. He had searched diligently for a stone, but found none; there was present a collection of thick mucus; Adami says that mucus alone may serve to obstruct a ureter in this way.

To Dr. King, he replied that Samson, in experimental work on dogs, had shown that the sudden ligation of the ureter is followed by the atrophy of the kidney served by it; the theory is that the pressure of intrarenal urine and the blood pressure become equalized and act in the same manner as ligating the renal artery.

PROPERLY DIAGNOSED.—The Duke of Villiers was famous for his hard-heartedness. When it was reported that he suffered from symptoms of stone, Piron remarked: "His heart must have fallen into his bladder."—*Medical Brief.*

MENTALITY OF ALCOHOLICS.*

By D. P. Hickling, M. D.,

Washington, D. C.

The object of this paper is to call your attention to a mental condition which exists in many cases of chronic alcoholics, a condition generally overlooked by physicians and which, in my judgment, is responsible in many cases for the continued and excessive use of alcohol by the unfortunate person and which is a fact to be considered in any plan suggested for treatment looking towards an ultimate cure.

I refer to a mental deterioration caused by the excessive and prolonged use of alcohol. This deterioration seems to follow the laws of regression inasmuch as the higher and most active mental processes are the ones which suffer most. This mental weakness or deterioration is occasionally appreciated by the patient's most intimate associates, and sometimes causes them to believe that insanity is present, while it is entirely overlooked by those who are ordinarily associated with him, and even the usual examination given by the general practitioner fails to disclose any mental defect except that the patient cannot or will not stop drinking although ruin of himself and loved ones is imminent. This deterioration is, however, only appreciated by the patient himself when he finds that he is unable to make good in his usual occupation; and when he realizes his inability to continue as his environment demands, he is compelled to resort to drink or suicide, and he usually chooses what seems to him to be the lesser of the two evils and starts another round of debauch.

I will briefly quote from the records of eight cases from the many observed by me in the Psychopathic Ward at The Washington Asylum Hospital.

Case 1.—D. B. O., age 56, a college graduate, failed to arrange five weights in their proper order and failed to draw designs from memory which are usually done by the ten-year-old child; his answers to the comprehension test were poor; he could not repeat seven figures or a sentence with twenty-four syllables; he could not change the hands of the clock, or use the code correctly, which is readily done by the fifteen-year-old child; and he could only answer one of the tests for the adult as arranged by Dr. Goddard in his revised Binet-Simons scale. This man would hardly be classed with the mentality of a twelve-year-old child. He had been a clandestine drinker for many years and was at one time a clerk in the railway mail service.

Case 2.—J. H. C., white, male, 25 years of age, common school

* Read before the Medical Society, March 26, 1913.

education with one year in the Business High School of this city; also has a fairly good musical education. Began to drink at the age of fifteen and became intoxicated for the first time when eighteen years of age and has drunk heavily since that time. He was unable to put two of the dissected sentences together which can be done by an eleven-year-old child; he could not repeat seven figures or a sentence of twenty-four syllables correctly, which is done by a twelve-year-old child; he drew four holes in the paper-cutting test. While this case was naturally above the average in ability, he is beginning to show decided mental defects which are a serious handicap in one who should be self-supporting.

Case 3.—F. S., age 49, a graduate of the Preparatory School of The Columbian University; has for the past ten years been a hard and constant drinker. He fails to repeat sentences of twenty-four syllables or to interchange the hands of the clock or to use the code correctly. He also fails in his adult tests to give the difference between abstract words and confesses his inability to give the sense of the selection read to him.

Case 4.—J. H. G., age 45, is a B. A. of Princeton. Became a hard drinker during his senior college year; for about eighteen years he took three or four drinks a day. He became confused in executing the three-fold command of Marie and rapped on a chair instead of the window; he failed to arrange the five weights in order, which is usually done by an eight-year-old child; he failed to draw the diagram correctly and gave only 105 words in three minutes; he failed completely on the cutting-out test. When it is known that this patient received the training of a mining engineer, the importance of his mental defects will be apparent; it is also interesting to note that in this case there was an improvement in his tests as above noted over a similar series of tests made the month before, inasmuch as at that time he could not repeat sentences of twenty-four syllables nor could he remember the code.

Case 5.—G. L., 31 years of age, was a jeweler's clerk; had a good common school education. Had been drinking heavily for about eight years; he fails to repeat seven figures and gets his twenty-four syllable sentence wrong; he gets mixed up on his code, making five mistakes in eleven words; he fails in the cutting-paper and reverse-triangle test. The mistakes made by this patient in his code and sentence test are interesting, as shortly after his examination he was detailed for work in the office of the hospital, and the report of the resident physician, who was asked to keep an eye on him, stated that he made numerous mistakes in his clerical work; that he made mistakes in taking messages over the phone, either getting the wrong number or transcribing the messages incorrectly; in handling the daily census

blanks he makes mistakes in the figures; forgets to put the case numbers on the record cards although told repeatedly about it.

Case 6.—W. N., age 35, common school education, tinner by trade. Has been drinking heavily for five years, passed the tests with the exception of the diagrams, which he could not draw.

Case 7.—J. F. B., age 40, began to drink when twenty years old, says he was moderate in his habits until one year ago; since that time, however, he drank on an average of six bottles of beer a day; at times he would exceed this; sometimes he would drink a half pint of whisky or more several times a day. He is a plate printer by trade; he answers all questions up to the eleventh year; he fails to name the rhyming words, cannot repeat sentences of twenty-four syllables or over, fails on the code, and fails on all the adult questions.

Case 8.—A. B., a baggage clerk, for years employed at the B. & O. Union Station; 51 years of age and had been for years a constant drinker. The only defect brought out by the tests was that he could not repeat seven figures correctly or carry four figures in his mind for five minutes.

All these cases had been brought to the Hospital for mental examination and had been under treatment for more than three weeks before the test was applied, during which time they had not taken a drink of liquor of any kind and they had had the benefit of treatment; they showed no symptoms of mental disease except as above stated. They all thought that they were well because they had stopped drinking and had lost the appetite for drink; they all believed that they were able to go to work and would not drink again.

I do not wish to be misunderstood; I do not claim that this mental deterioration exists in all chronic alcoholics, nor do I believe it is the only cause which leads to alcoholic relapses, nor do I pretend to fix the time or quantity limit that alcohol may be used before symptoms of mental deterioration can be detected. But I do believe that this mental weakness exists in many cases without being appreciated or being provided for in outlining the care and treatment.

I also desire to call attention to the fact that these patients are easily persuaded, emotional, accessible, and sometimes depressed; they also show increased motor excitability, tremors, sometimes pupillary disturbances, as well as the diminished mental powers; symptoms which are so often found in the dementias.

It is a well-known fact that the nervous system has an affinity for alcohol the results of which are so often seen in neuritis, delirium tremens (mania a potu), Korsakow's syndrome, the alcoholic psychosis, as well as the phenomena of ordinary drunkenness; these conditions have symptoms so plain that they are

apparent to the casual observer, but the mental deterioration due to alcohol, even when present to a considerable degree so as to interfere materially with the ability of the patient to earn a livelihood, must be carefully looked for and can only be demonstrated by appropriate mental tests. I believe that this is such an important fact that not to appreciate it is a serious detriment to the proper treatment of the individual case, for, like all the other alcoholic conditions of the nervous system, these cases are often curable in time when the cause is removed and the hygienic. medicinal and occupational conditions are properly adjusted to suit the mental and physical condition of the patient.

The practical deductions which should be drawn from these cases in my judgment are, first, that the mental tests applied are arranged to show the minimum or at best the average mentality of the patient, they therefore do not show the degree of loss that the patient has undergone; that could only be measured by knowing the mental ability of the individual patient when at its height, that is, before the alcoholic deterioration has commenced; but while the tests used do not show the degree, they do show the fact that deterioration has occurred to the extent of interfering with the usual occupation; this it is important to know and appreciate; second, that the element of time is an essential feature for recovery, during which the patient's environment, as well as his occupation, must be adapted to his mental state.

Dr. Williams thought that Dr. Hickling deserved much credit for advancing the postulate that the mere impression of the average doctor as to the mental capacity of an individual is entitled to no more weight than that of any other intelligent observer; to determine such a grave question in court, recourse should be had to some precise method of psychometric evaluation. In particular the facts of the paper are based on results obtained by the use of the Binet system of tests; and these tests are based on the ascertained average mental ability of children, and in an ascending scale. Now Dr. Hickling's work is based on the assumption that these same tests will be accurate gauges of mental powers in the descending scale, the descent in this series of cases dependant upon the effects of alcohol. This should not be too quickly conceded; for one reason, because alcoholics are so often what they are on account of a primary mental defect of some sort, and many of the cases here cited may have belonged to this category.

Dr. Randolph asked what Dr. Hickling considered would be the ultimate prognosis in these cases? These patients were tested when they had been deprived of alcohol for three weeks; but this does not mean that all the effects of the recent intoxication had ceased. Might not the mental powers of these

patients be restored after six months or a year of sobriety and good hygiene? Failure to perform a few of the items in the tests should not be conclusive, possibly, because inattention or a temporary distracting event might account for some such failures.

Dr. Lochboehler said that it was interesting to note that these patients were all about in the same decade of age; has the blood pressure anything to do with the prognosis in these cases? And was the pressure estimated?

Dr. J. D. Thomas called attention to the plea made in the paper for the establishment of an inebriate hospital, and suggested that the Society take some action to stimulate Congressional interest in the matter.

Dr. Chappell said that the method used by Dr. Hickling would be of great value if it proved trustworthy after application to a large number of cases. But such tests should not be necessary for the physician to determine whether a given patient is mentally capable or not; a good practical test is the patient's ability to perform his customary work. A precise method of measuring mental capacity, of course, would be of great value, but he felt unwilling to agree with Dr. Williams' statement that the opinion of a physician as to a patient's sanity is of no more value than that of a layman.

Dr. Hickling, replying to Dr. Randolph, said that failure to perform some of the tests may be due to inattention, but this is in itself a sign of much importance. As to the age of the patients, the period from 25 to 50 was selected to avoid the possibility of the tests being affected by senile changes. Education has nothing to do with the ability to respond to tests of this character; they are based entirely on natural mental processes. The paper-cutting test was the one that most often provoked a failure; but the point of significance was that when a failure was noted, the patient invariably failed on the same test when repeated the next day.

As to the need of an institution for the care of such persons, experience shows that such men find on returning to their accustomed work that they are mentally unable to perform it; their only recourse is to procure temporary artificial ability by a return to drink, or they evade the issue by suicide. He thought that treatment for a full year as a minimum, better for two years, would entirely restore these patients. Thus far Congress will not listen to pleas for the establishment of such an institution, although it could easily be made self-supporting.

In Memoriam.

JOHN SHAW BILLINGS, M. D.

WHEREAS, The Medical Society of the District of Columbia learns with great sorrow of the death of its honored fellow member, Lieutenant Colonel John Shaw Billings, Surgeon, United States Army, Retired, and whilst we bow reluctantly to a decree of fate which sooner or later must overtake us all, we cannot but greatly deplore his passing at the moment when the great event of his life, the New York Library consolidation, was approaching fruition.

John Shaw Billings needs no word of praise from his colleagues of this Society. He has built up a reputation and a monument in the wonderful volumes bearing his name, and the splendid library of the Surgeon General's Office is a marvel of his energetic and praiseworthy industry.

Through his executive ability he was enabled to draw to himself a band of workers who, inspired by his magnetism, made it possible for him to carry on a great work inherited by him from an eminent predecessor.

Without the labors of our deceased member medicine might have been many years behind hand in intellectual work. The whole medical world will deplore his loss.

To his bereaved family and immediate friends, the Society tenders its profound sympathy.

(Signed) H. C. YARROW, *Chairman;*
D. S. LAMB,
I. S. STONE,
Committee.

Adopted by the Society, March 26, 1913.

PROCEEDINGS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Wednesday, February 19, 1913.—The President, Dr. W. P. Carr, presided; about 65 members present.

A letter from Dr. Cornelius B. Boyle, transmitting an official card of transfer from the Gallatin (Montana) County Medical Society, and applying for membership in this Society, was read. The Secretary was instructed to inform Dr. Boyle that the only way by which membership in this Society may be obtained is by complying with the requirements of the Constitution relating thereto.

A report of the Executive Committee was presented embodying the following recommendations: (a) to decline participation in the publication of a directory of the Washington Academy of Sciences and affiliated Societies; (b) directing the publication of the Constitution and By-laws in the ANNALS and reprints. The report was accepted and the recommendations adopted.

DR. D. S. LAMB showed the following specimens from the Army Medical Museum:

1. *Fracture of patella.*—Where the fracture was vertical, there was bony union of the fragments; where it was transverse most of the specimens showed fibrous union with greater or less interval between the fragments; in one case, several inches. In one case of transverse fracture there was bony union. There was no history in any of the cases, so that the treatment is unknown. All the specimens were many years old.

2. Hermaphroditism. See page 173.

Dr. Roy read the paper of the evening: Some observations on pulsus alternans, pulsus angina pectoris, pulsus bigeminus and extra systoles. Discussed by Drs. Lee, Barton, Carr, Randolph, Chappell and Roy.

Wednesday, February 26.—The President, Dr. Carr, presided; about 60 members present.

In view of the fact that the inauguration of the President of the United States would occur March 4th, the meeting of the Society of March 5th was postponed till March 12th.

The resignation of Dr. Mallory from the Committee on Public Instruction was accepted and Dr. Loren B. T. Johnson was appointed instead.

The Society appropriated $4.00 for rent of hall and use of stereopticon.

Dr. W. A. Jack presented a specimen of Ureteral abscess and reported the case. Discussed by Drs. A. F. A. King, H. A. Fowler, Balloch, Carr and Jack. See page 179.

Dr. L. Eliot read the paper of the evening: Quinin and urea hydrochlorid anesthesia in ano-rectal surgery. Discussed by Drs. Jack, Carr, A. F. A. King, Martin, R. A. Hooe, G. Wilkinson and Eliot. See page 175.

Wednesday, March 12.—The President, Dr. Carr, presided; about 95 members present.

The Corresponding Secretary announced a joint meeting of the Baltimore and Washington Neurological Societies, to be held March 20, at 8 p. m., at the University Club, this city.

The Treasurer presented his report for February, showing receipts, $200.00; disbursements, $360.75.

The Committee of Censors reported favorably upon the fol-

lowing applicants for active membership, and they were elected:
Frank W. Hornbrook, Harvard Medical School, 1905.
Leopold Glushak, University of Glasgow, 1912.
Richard A. Neale, Georgetown University, 1870.
Paul B. A. Johnson, Georgetown University, 1905.
Thompson F. Wickliffe, Tulane University, 1903.

Dr. Balloch reported for the Executive Committee as follows: (a) A circular letter from the American Medical Association's Committee on Red Cross Medical Work, Dr. G. M. Kober, chairman, was referred back to the Society with the recommendation that the committee of this Society requested in the letter be appointed by the President. (b) The Executive Committee recommended that the functions of the Committee on Public Instruction be continued, with the following provisions: (1) All articles shall be copyrighted; (2) They shall be printed absolutely as given to the papers; and (3) Published not more frequently than once a month unless demanded by an emergency. Consideration of the report was postponed until the next meeting.

The following applicants for membership were proposed and the applications referred to the Committee of Censors:

For active membership:
Louis Mylius Babendrier, Georgetown University, 1910.
Thomas Victor Hammond, Jefferson Medical College, 1908.
Walter Price, George Washington University, 1910.
Harry A. Bishop, University of Maryland, 1912.
Michael J. Ready, Georgetown University, 1905.
Murray A. Russell, Georgetown University, 1908.
Jno. W. Warner, University and Bellevue Hospital Medical School, 1909.

For associate membership:
Elbert E. Persons, U. S. Army.
James Chambers Pryor, U. S. Navy.

The scientific portion of the meeting being under the auspices of the Section on Ophthalmology, Otology, Rhinology and Laryngology, the chairman of that Section, Dr. W. H. Wilmer took the chair.

Dr. Hiram Woods, of Baltimore, addressed the Society upon: Contact points of ophthalmology and general medicine. Discussed by Drs. Butler, Shute, O. Wilkinson, S. B. Muncaster, Tom A. Williams, Carr and Woods. See page 161.

Dr. J. J. Richardson read a paper: Arteriosclerosis of the ear and acoustic centers. Discussed by Drs. Tom A. Williams, McKimmie, Bennett, Macatee and Richardson.

Wednesday, March 19.—The President, Dr. Carr, presided; about 125 members present.

The Corresponding Secretary presented the resignation from membership of Dr. O. M. Muncaster, and stated that the resig-

nation had been intended for December 31, 1912, but had been delayed in transmission; he therefore moved that Dr. Muncaster's dues for 1913 be remitted and that the resignation be accepted. Action deferred until the next meeting.

Dr. S. S. Adams read a letter from Dr. Simon Flexner, of the Rockefeller Institute, announcing the production of an efficacious antiserum for the treatment of influenzal meningitis, and offering to supply this serum for the treatment of this disease in this community in bacteriologically confirmed cases. Dr. Adams stated that the serum could be obtained by application to him through the Children's Hospital, its use to be subject to the conditions laid down by Dr. Flexner.

Dr. Avery, for the committee, reported resolutions expressing the sense of the Society that the present speed regulations governing the operation of automobiles should be amended as indicated in the resolutions.

The Chair announced the death of Dr. John S. Billings, U. S. Army, Retired, an honorary member of this Society, and appointed Drs. Yarrow, D. S. Lamb and I. S. Stone a committee to prepare suitable memorial resolutions.

The Chair introduced Dr. Cullen, of Baltimore, who addressed the Society upon the diseases of the umbilicus, illustrated with stereopticon pictures. Discussed by Drs. Bovée and A. B. Hooe. A rising vote of thanks was given to Dr. Cullen for his address.

Wednesday, March 26.—The President, Dr. Carr, presided; about 50 members present.

On motion of Dr. T. C. Smith, the congratulations of the Society were tendered to Dr. H. C. Yarrow on the attainment of his fifty-second year in the practice of medicine.

The committee appointed to formulate resolutions of respect to the memory of Dr. John S. Billings, U. S. Army, Retired, submitted a report, with resolutions, which were unanimously adopted. See page 186.

The resignations of Drs. Wells, Tom A. Williams and Randolph from the Committee on Public Instruction were accepted.

The report of the Executive Committee March 12th, making recommendations concerning the Committee on Public Instruction, was adopted.

The chairman of the Committee on Publication was authorized to have printed 500 reprints of the Constitution and By-laws without covers.

Dr. Hickling read the paper of the evening: The mental capacity of alcoholics. Discussed by Drs. Williams, Randolph, Lochhoehler, J. D. Thomas, Chappell and Hickling. See page 181.

Dr. D. S. Lamb presented the following specimens:

1. A human female fetus at about the seventh month, with

anencephalus and *spina bifida;* the mother was 29 years old and had had one normal child. Nothing in the history to suggest an explanation of the malformation.

2. Female new-born infant showing posterior *meningocele;* parents healthy; labor normal; one living child.

3. Fetal horse at about seventh month, male; shows a *foreshortening* of the *maxillae;* remainder of body normal.

4. Female fetal pig, showing *foreshortening* of the upper *forelimbs;* the lower end of each humerus much thickened; only one bone in the forearm, this was much shortened and ankylosed to the humerus so that there was no motion in the elbow joint and the hands were directed forwards. Peromelus.

WASHINGTON MEDICAL ANNALS.

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Editorial.

History of the Medical Socety of the District of Columbia.—This book should be in the hands of every member of the Medical Society. The price is only $1.00, with 25 cents added if delivered in this city or sent by mail. Address Dr. C. W. Franzoni, 605 I Street, N. W. The books are in the custody of Dr. D. S. Lamb, at the Army Medical Museum.

THE OTHER MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

Medical and Surgical Society of the District of Columbia.—President, H. P. Parker; Vice President, D. P. Hickling; Secretary and Treasurer, L. Eliot; Recording Secretary, L. C. Ecker; Executive Council, A. R. Shands, O. A. M. McKimmie, L. Eliot, E. P. Copeland and L. H. Reichelderfer.

THE WOMEN'S MEDICAL SOCIETY of the District of Columbia.—President, Mary Parsons; Vice President, Ida J. Heiberger; Recording Secretary and Treasurer, Ada R. Thomas; Corresponding Secretary, L. Tayler-Jones.

GALEN SOCIETY of the District of Columbia, 1912–1913; R. Lee Spire, President; Wm. H. Littlepage, Secretary-Treasurer.

1913.	*Place of Meeting.*	*Essayist.*
May 19.	Joseph B. Bogan, 606 Mass. Ave.	David W. Tastet: Infant feeding.
Oct. 20.	David W. Tastet, 2827 11th St.	Election of officers: Miscellaneous business.

MEDICAL HISTORY CLUB of Washington, D. C., 1912–1913. Officers: President, G. Wythe Cook; Vice President, W. W. Wilkinson; Secretary, H. W. Lawson, 1117 Vermont Avenue. Executive Committee: I. S. Stone, F. H. Garrison, B. M. Randolph and the officers. Members: Truman Abbe, Frank Baker, W. C. Borden, G. Wythe Cook, J. A. Foote, F. H. Garrison, Howard Hume, H. W. Lawson, G. Brown Miller, J. D. Morgan, J. B. Nichols, B. M. Randolph, C. W. Richardson, Philip S. Roy, Sterling Ruffin, I. S. Stone, Joseph Wall, W. W. Wilkinson.

GEORGETOWN CLINICAL SOCIETY; twenty active members limited to graduates of the Medical Department of Georgetown University. Meets at the University Club on the second Tuesday of the month. J. Russell Verbrycke, Jr., President; John Foote, Vice President; Ralph LeComte, Secretary-Treasurer.

MEDICAL SOCIETY OF GEORGETOWN UNIVERSITY has a membership of 97 active members and meets on the second Saturday of the month at the Medical School. Officers: Wm. C. Gwynn, President; Geo. Wood, First Vice President; Ralph Hamilton, Recording Secretary; J. Russell Verbrycke, Jr., Corresponding Secretary.

THE HIPPOCRATES SOCIETY, membership limited to 25, with voluntary retired members after 10 years, meets on the second Thursday of the month. Officers for the year are L. M. Hynson, President; Wm. Earl Clark, Vice President; J. Russell Verbrycke, Jr., Secretary-Treasurer.

Date.	*Place.*	*Essayist.*
May 10	Dr. Hynson, 1335 N Street	President's Address.

SOCIETY OF OPHTHALMOLOGISTS AND OTOLOGISTS of Washington.—R. S. Lamb, President; J. J. Richardson, Vice President; A. B. Bennett, Jr., Secretary-Treasurer. Meets on the third Friday in each month from October to May, inclusive.

Clinical Society of Washington.—Composed of 25 active members besides retired members. Officers: C. M. Hammett, President; T. A. Groover, Vice President; W. E. Clark, Secretary-Treasurer; L. A. Johnson and J. D. Thomas, Censors.

Clinico-Pathological Society.—Active membership limited to 25. Inactive membership: those who have withdrawn from active membership for 15 years. A limited honorary membership of distinguished medical men. Meets on first and third Tuesdays from October to May, inclusive. Officers: W. G. Morgan, President; Sothoron Key and E. E. Morse, Vice Presidents; B. M. Randolph, Secretary and Treasurer.

The Freedmen's Hospital Medical Society meets on the third Tuesday of each month from October to May, inclusive. Its membership is composed of physicians connected with the Staff of the Hospital and the Medical Faculty of Howard Medical School. The present officers are A. M. Curtis, President; S. L. Carson, Vice President; C. A. Allen, Secretary-Treasurer; Committee on Program, E. A. Balloch, S. L. Carson and H. H. Hazen.

Therapeutic Society of the District of Columbia.—Meets at the G. W. School of Pharmacy, 808 I Street, N. W., on the first Saturday in each month. G. W. Latimer, President; A. P. Tibbets, Secretary.

June 7, paper by J. L. Thompson, Pulmonary oedema; discussion led by D. O. Leech.

Oct. 4, paper by Adam Kemble and J. J. Kinyoun, The diagnosis and treatment of chronic gonorrhoea, with remarks upon the complement fixation test; discussion led by H. A. Fowler.

Nov. 1, paper by W. M. Barton, Chemo-therapy; discussion led by N. P. Barnes.

The Washington Society of Nervous and Mental Diseases is in its sixth year and, although of limited membership, welcomes those physicians who are interested in neurology, psychiatry and psychopathology. There are no dues, and the members entertain the Society in turn.

Society of Social Hygiene, Washington, D. C.—President, Surgeon General Stokes, U. S. Navy; Secretary, Lt. Col. J. R. Kean, U. S. Army, Surgeon General's Office. The Society has four committees, namely: Education, Venereal Diseases, Protection of Women and Children, and Psychopathology. Yearly dues, $1.00. Persons desiring to become members should address Col. Kean and state to which committee they wish to be assigned.

The Secretaries of the other Medical Societies of this District are reminded that the Annals will publish the schedules of their meetings.

COMMITTEES.—Several Special Committees have not been heard from in a long time, namely: Committee on Amending the Charter of the Society; Committee on Permanent Home for the Society. The Historical Committee has done a good deal of work and will probably make a report before the close of the season. A resolution of Dr. E. L. Morgan on the Social Evil was referred to the Executive Committee a long time ago, but apparently has been forgotten.

THE WASHINGTON MEDICAL ANNALS.—Back numbers.—Members of the Society who have back numbers of the ANNALS, and do not intend to preserve them, are requested to send them to the Chairman of the Publication Committee. Requests for such numbers are frequently received. Address Dr. D. S. Lamb, Army Medical Museum.

EXCURSION TO EUROPE.—"The Visit by a party of German physicians to the recent International Congress on Hygiene and Demography has proven that a well-managed travel-study party of physicians can make a trip through a foreign country in a far more pleasant and profitable manner, and at less expense, than can be done by traveling alone. Clinics can be arranged in advance, lectures prepared and visits made to the best hospitals and health resorts, with the assurance of a hearty welcome from the leading medical men of the localities visited. For those unable to speak the languages of the countries on the Continent this disadvantage is reduced to a minimum, and the benefits of the trip correspondingly increased by traveling with such a party.

"The coming International Medical Congress, London, Aug. 6–12, 1913, gives a splendid opportunity for organizing an American tour of this sort and plans are now ready for a Physicians' Travel-Study Tour, leaving New York July 3d for the most important capitals and health resorts on the European Continent; Paris, Munich, Carlsbad, Marienbad, Dresden, Berlin, Nauheim, Wiesbaden, Cologne, Brussels, The Hague, Amsterdam, etc., ending with the week of the Congress in London.

"The plan of this tour has been seen and endorsed by Drs. A. Jacobi, T. C. Janeway, Ch. G. Kerley, O. G. T. Kiliani, L. R. Williams, Wisner R. Townsend and others. Physicians interested in such a trip should write for further and more detailed information to RICHARD KOVACS, M. D., 236 East 69th Street, N. Y. City."

MUNICIPAL SANITATION.—A Summer Course on this subject will be given at Harvard Medical School, June 30 to August 9, 1913. Persons desiring further information should address Prof. G. C. Whipple, Pierce Hall, Harvard University, before June 15.

OWEN BILL.—To establish a Department of Health. See *Jour. A. M. A.*, April 26, page 1320.

PUBLIC HEALTH.—The Committee is asked to publish the following culling from an old medical work:

"Preventive medicine first made its appearance in England in the reign of Henry VIII, and was taken as measures to protect him from the plague. Quarantine was placed upon those stricken and this system finally became universal and was made very strict. Infected houses were placarded. Ideas of fumigation were practiced with partial success.

"Some good sanitary measures were taken at the time, and although not as thorough and careful as those of today, they were perfectly correct as far as they were put into effect. It was the monarchs and not the medical profession who caused these sanitary measures to be taken. When a plague would strike London, the doctors would flee with all the rest who could. In those days doctors never rendered gratuitous service nor wrote their ideas for others to read.

"Henry VIII was a sort of doctor himself, and he established chairs of medicine at Cambridge and Oxford."

TROPICAL MEDICINE.—Dr. J. A. Nydegger, of the Public Health Service, is giving a course of lectures on Tropical Medicine at the College Hall of the University of Maryland, Baltimore. After May 1st the dates will be May 4, 11 and 18. This course will be resumed next October and be continued in subsequent years. Arrangements have been made to exhibit patients and specimens. It is understood that physicians are invited to attend.

PRIZES.—Prizes consisting of medals in gold, gold plate, silver and bronze, also honorable mention, will be awarded by the *Societé d'Hygiene de l'Enfance,* Paris, to the best essays on the following subject: "The place that should be occupied by Puericulture and Infant Hygiene in modern education." Essays must be received before January, 1914; may be in French, English, German, Italian or Spanish; not signed, but at the head must be placed some device which is to be reproduced with the author's name and address in an accompanying sealed envelope. The essays become the property of the Society, will not be returned to the authors, who also are forbidden to publish them. The Society reserves the right not to accept any essay. The prizes will be adjudged in the annual meeting of the Society in 1914. Essays should be sent to the President of the Society, No. 10, Rue St. Antoine, Paris, before Dec. 1st.

FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE, Buffalo, New York, August 25–30, 1913, under the patronage of the President of the United States.

It is desired to bring together a record number of men and women interested in improving the health and efficiency of school

children, moreover to make this Congress—the first of its kind ever held in America—one of direct benefit to each individual community.

There is now being arranged a comprehensive program of papers and discussions covering the entire field of school hygiene. There will be scientific exhibits, representing the best that is being done in school hygiene, as well as commercial exhibits of practical and educational value to school people. Nor will the entertainment of the delegates in any way be a minor feature. Plans are being made for a series of social events, including receptions and a grand ball, a pageant in the park, and excursion trips to the great industrial plants of Buffalo, as well as to the wonders of Niagara Falls, and the Rapids. Buffalo itself has just taken up a collection of $40,000 for the purpose of covering the expense of the Congress.

Delegates will attend from all the leading nations, from every college and university of note in this country, and from various other educational, scientific, medical and hygienic institutions and organizations. The Congress is further open to all persons interested in school hygiene. Membership may be secured on the payment of a five-dollar fee. Applications should be sent to Dr. Thomas A. Storey, College of the City of New York, New York City.

The man of tomorrow depends upon the child of today, and the child of today, roughly speaking, spends half his waking hours under the influence of school conditions. Are you interested in making these conditions what they ought to be? If you are, give this Congress publicity. That is one way in which you can help.

Prevention of Infant Mortality.—An English-speaking Conference on this subject will be held in Caxton Hall, Westminster, London, on Monday morning, Monday afternoon and Tuesday morning August 4 and 5. The meetings will be held under the auspices of the (British) National Association for the Prevention of Infant Mortality and The Welfare of Infancy under the patronage of the King and Queen, and will convene immediately preceding the opening of the International Medical Congress. A tentative program has been issued by the committee which indicates that the papers will consist largely of medical opinion. The subjects treated will be: The responsibility of central and local authorities in infant and child hygiene; The administrative control of the milk supply; The necessity for special education in infant hygiene; Medical problems in infant nutrition; Ante-natal hygiene.

The President of the Conference will be the Hon. John Burns, M. P., President for the Local Government Board. The chair-

man of the English Executive Committee is Sir Thomas Barlow, and the Secretary, Miss J. Halford, 4 Tavistock Square, London, W. C.

The American Committee, in charge of the part to be taken by the United States and Canada, will furnish information to those desiring to attend the conference.

Dr. Henry L. Coit, Chairman, 277 Mt. Prospect Avenue, Newark, N. J.

Dr. Philip Van Ingen, Secretary, 125 East 71st Street, New York City.

A Children's Bureau was created recently by act of Congress, and has been formally installed in this city as part of the Department of Commerce and Labor. The objects of this Bureau are to investigate "all matters pertaining to the welfare of children and child-life among all classes of our people." An editorial in *The Medical Fortnightly* of St. Louis, criticizes the personnel of the Bureau, as being composed of persons not educated or trained in the work of such a Bureau. Such subjects as psychology, morbidity, mortality, and related topics, would seem to require the services of graduates in medicine, but none such have been appointed. As a newly created Bureau, it afforded an opportunity to organize it with competent persons obtainable through the help of the colleges, in which the subjects mentioned form parts of the curriculum. Apparently no attempt of the kind was made.

REVIEWS.

The Career of Doctor Weaver. A novel by Mrs. Emma S. Backus. Published by L. C. Page and Co., Boston. Cloth, 373 pages, price postpaid, $1.40; net, $1.25.—This is a story, a love story, of course, but also the story of a young physician who was assisting another physician, an older brother, in conducting a private hospital. The younger man, while giving the best available treatment to his patients, undertakes also to inform them as to the causes and prevention of disease. The older brother has gone beyond this stage in which the patients are enlightened, and devotes his time to getting as much money and reputation as possible out of his work. He also avails himself of other means of getting forward such as are afforded by fashionable society and the political powers of the city in which he is located. The younger man despises the hollowness and mockery of fashionable society and in politics is a radical reformer. So the two brothers have occasions in which they express quite antagonistic views on things. The love experience

of the younger man is much disturbed by a series of misunderstandings. In the end the older man cuts loose from his idols and takes the moral ground of the younger, and the latter, of course, marries his lady-love. The story is written by one who shows familiarity with the inner workings of medical practice, and is interesting reading. It is especially intended to further the establishment of a Public Health Service.—D. S. Lamb.

The Transactions of the American Pediatric Society, 24th session, 1912, has been received. It contains 318 pages, 25 formal papers, some of them illustrated, also an index to volumes xv to xxiv inclusive. The subjects considered in the papers include the following: Reduction of mortality; the Wassermann reaction; Use of Salvarsan; Epidemic Cerebro-spinal meningitis; Pyloric stenosis; Infantile scurvy; Epidemic sore throat; Serum treatment of pneumonia; Coagulation time of the blood; Feeble-minded children; Inclusion bodies in scarlet fever blood; Typhoid fever in infancy; Milk commissions.

Under Infant Metabolism are Fundamental principles and metabolism of amaurotic family idiocy.

Under Feeding are Dextrose and maltose, Heated or superheated milk; and Charts.

The following cases are reported: Congenital obstruction of posterior urethra; Delayed development treated with thymus gland; Diabetes mellitus; Chondrodystrophy; and Acute yellow atrophy.

RECENT PUBLICATIONS BY PHYSICIANS OF THE DISTRICT OF COLUMBIA.

P. M. Ashburn (U. S. A.); The relationship of variola and vaccinia; *Jour. A. M. A.*, April 19, page 1220.

S. H. Ayers and W. T. Johnson, Jr.; The distinction of bacteria in milk by ultraviolet rays; *Jour. Wash. Acad. Sci.*, March 19, page 160.

F. B. Bishop; Case of hemorrhagic tumor of pancreas; *Va. Med. Semi-Mo.*, March 21, page 617.

W. C. Borden; Complete non-descent of the colon and cecum in the adult; Same journal, April 11, page 1.

E. P. Copeland; Tuberculosis in early life; *Med. Record*, N.Y., March 15.

C. F. Craig (U. S. A.); Identity of entamoeba histolytica and entamoeba tetragena; *Jour. A. M. A.*, May 3, page 1353.

C. F. Craig (U. S. A.) and H. J. Nichols (U. S. A.); Complement fixation in syphilis with spirochaeta culture antigens; *Jour. Exp. Med.*, Sept., 1912; abstracted in *Pathologia*, Genova, Italy, April 1, page 211.

R. H. Creel (P. H. S.); The rat, its habits and their relation to antiplague measures; Reprint 119 from Public Health Reports, Feb. 28, 1913.

V. Dabney; Fibrinous rhinitis; *Laryngoscope*, March. Also, Connection of sexual apparatus with the ear, nose and throat; *N. Y. Med. Jour.*, March 15.

J. M. Eager; Indoor tropics; the injurious effects of overheated dwellings, schools, etc.; Supplement No. 2 to Public Health Reports, Jan. 31, 1913. Also, Fighting trim, the importance of right living; Supplement No. 5 to Public Health Reports, March 14, 1913.

H. A. Fowler; Grave kidney lesions with vesical symptoms only; *Va. Med. Semi-Mo.*, April 25, page 29. Also, Prostatic and vesical calculi complicating suprapubic prostatectomy; *Amer. Jour. Surg.*, April, page 156.

W. H. Frost; Epidemiology of poliomyelitis; *Amer. Jour. Pub. Hlth.*, March.

A. Glascock; Present knowledge of status of apraxia, with study of case; *Jour. Nerv. and Ment. Dis.*, April.

H. H. Hazen; So-called annular syphilis of negro; *Jour. Cut. Dis.*, March.

T. J. Leary (U. S. A.); Surgical method of clearing up chronic typhoid carriers; Report of two cases of removal of gallbladder and entire cystic duct; *Jour. A. M. A.*, April 26, page 1293.

W. P. McIntosh; Syphilis, especially in regard to its communication by drinking cups, kissing, etc.; *Military Surgeon*, February.

Medical and Surgical Society of the District of Columbia; *Va. Med. Semi-Mo.*, March 21, page 618.

W. G. Morgan; The Einhorn bead test for the estimation of digestion; *N. Y. State Jour. Med.*, April, page 207.

J. B. Nichols; Medical Sectarianism; *Jour. A. M. A.*, February 1; abstracted in *N. E. Med. Gaz.*, April 1, page 195, and *Vermont Med. Monthly*, March 15, page 76.

A. J. Orenstein; Musquito catching in dwellings in prophylaxis of malaria; *Amer. Jour. Pub. Hlth.*, February.

C. A. Pfender; Historical synopsis of the development of hypodermic medication; *Hospital News*, Feb. 15, page 6. Also, Barlow's disease in infants fed on pasteurized cows' milk; *Med. Record*, N. Y., April 19.

B. M. Randolph; Vaccine treatment of typhoid, report of cases; WASH. MED. ANNALS, March; abstracted in *Jour. A. M. A.*, April 19, page 1264.

L. H. Reichelderfer; Kitchen incinerator, its construction and use; *Military Surgeon*, February.

J. L. Riggles; Surgical care of the skin; *Va. Med. Semi-Mo.*, March 21, page 615.

W. C. Rucker; Measles; Supplement No. 1 to Public Health Reports, Jan. 24, 1913.

F. F. Russell (U. S. A.); Antityphoid vaccine in children; *Jour. A. M. A.*, Feb. 1; abstracted in *Vermont Med. Mo.*, March 15, page 77.

T. W. Salmon; Mental hygiene in widening sphere of preventive medicine; *Albany Med. Annals*, March.

C. A. Simpson; Luetin reaction in syphilis; *Southern Med. Jour.*, April, page 234; abstracted in *Jour. A. M. A.*, April 26, page 1329.

T. C. Smith; Tuberculosis, its predisposing causes; Supplement No. 3 to Public Health Reports, Feb. 7, 1913.

C. W. Stiles; Hospital relief for rural districts; Reprint 115 from Public Health Reports.

C. W. Stiles and S. B. Altman; Snuff and tobacco, their use by schoolboys and girls in county Z.; Report 118, Public Health Reports, Feb. 28, 1913.

E. R. Stitt (U. S. N.); Dengue, its history, symptomatology and epidemiology; Bull. Johns Hopk. Hosp., April.

G. T. Vaughan; Arrest of hemorrhage from bone by plugging with soft tissues; *Annals of Surgery* March; abstracted in *Jour. A. M. A.*, April 5, page 1105.

W. A. Wells; How we catch colds; *Hosp. News*, Feb. 15, page 17.

M. I. Wilbert and M. G. Motter; Digest of laws and regulations in force in the United States relating to poisonous and habit-forming drugs; Bull. 56, Public Health Reports, November, 1912.

T. A. Williams; Physical therapy and psychic influence; *Jour. A. M. A.*, page 926. Also, Tabes dorsalis without lymphocytosis; *N. Y. Med. Jour.*, April 5. Also, Syringomelia said to have shown itself after electric shock; *Jour. Med. Soc.*, N. J., April, page 567. Also, Occupation neuroses, nature and treatment; *Med. Record*, N. Y., March 15.

W. C. Woodward; A new method of grading milk and cream; Reprint 117 from Public Health Reports, February 21, 1913.

PERSONAL NOTES.

W. D. Crosby, Col., Med. Corps, U. S. A., has been relieved from duty at Soldiers' Home, D. C., and detailed as Chief Surgeon, Southern Department.

Dr. F. H. Garrison, at a meeting of the Johns Hopkins Hospital Historical Club, April 14, presented to the J. H. Medical School a portrait of the late Dr. Robert Fletcher.

M. E. Higgins, U. S. Navy, has been transferred from the Naval Medical School, Washington, to the steamer *Illinois*.

Col. L. A. LaGarde, Med. Corps, U. S. A., was retired April 15.

W. C. Lyon, Med. Reserve Corps, U. S. Navy, has been transferred from the Naval Medical School, Washington, to the Navy Recruiting Station, Richmond, Va., and N. R. Sullivan to the Asiatic Station.

The following physicians of the District of Columbia have been appointed Assistant Surgeons in the Medical Reserve Corps, U. S. Army: S. S. Adams, A. B. Bennett, H. G. Fuller, L. C. Lehr, W. G. Morgan, J. J. Richardson, C. A. Simpson, G. T. Vaughan, W. W. Wilkinson.

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WASHINGTON
MEDICAL ANNALS

HIGH-FREQUENCY CURRENTS.*

By Francis B. Bishop, M. D.,

Washington, D. C.

The term "high-frequency current," so often used without qualification, seems in the light of present-day nomenclature to cover a wide range of meaningless expressions. This term may mean any one of a number of modalities, that differ widely in capacity, tension and frequency, and differ also one from the other in their physical, physiological and therapeutic effects, according to their mode of application. These introductory remarks are not intended as an unkind criticism of those of my professional brethren who have thoughtlessly, perhaps, made use of the expression, "treated by high-frequency electricity," in some of their papers or discussions, but is an earnest appeal to all who are using these valuable modalities to make their statements so clear and well defined as to be a source of genuine information to all, instead of a source of confusion to many.

It is not my intention at this time to go into the therapeutics of these various currents so much as it is to call your attention to the physical differences of the apparatus used and, consequently, the different qualities of the currents, that are all classified under the one heading, High Frequency.

When we speak of a current of frequency, either high or low, we imply necessarily an alternating current in contradistinction to a current of direction. A cycle is a complete curve above and below the zero line. A period is the time required to make a cycle. An alternation is half a cycle.

In the alternating currents of commerce there are usually sixty cycles to the second, therefore, the period of that current is one-sixtieth of a second, making a frequency of thirty-six hundred per minute, with seven thousand two hundred alternations per minute.

* Read before the Medical Society, April 16, 1913.

We can in a measure comprehend these low frequencies, but when we consider the frequency of a leyden jar discharge, we must depend upon those physicists and mathematicians for information who have given the subject their time and serious consideration.

According to Feddersen, whose researches were very carefully conducted with the aid of rotating mirrors, the spark discharge from a leyden jar is oscillating in character with a period of about one millionth of a second.

In order that the leyden jars may give a continuous flow of these high-frequency discharges, it is necessary that one of their coatings (the inner one is generally used) be connected to some source of high-potential electricity. In 1881 Dr. Morton, of New York, took advantage of this idea and suspended (by rods attached to their inner linings) leyden jars to each prime conductor of his static machine. The patient was attached to the outer coatings of these jars by conducting cords which led to surface electrodes, attached to some portion of the body. When the machine was in action and the sliding rods were carefully separated, a clear white spark jumped between the balls of the sliding rods; the patient in circuit experienced a sensation rapidly vibrating in character, and somewhat similar to the sensation felt under the influence of a rapidly vibrating faradaic current. As the resistance was increased in the spark gap by withdrawing the sliding rods the effect upon the patient became more intense, until the sensation and muscular contractions were unbearable.

The frequency of this current is greater and the capacity smaller, with less painful effects, when small jars are used. Dr. Morton called this current the "Static Induced Current." He was, perhaps, the first one to utilize the high-frequency leyden jar currents for therapeutic purposes. If we take a solenoid made of several turns of stout copper wire and attach it by its free ends to the outer coating of leyden jars, as they hang from the prime conductors of a static machine, we will have the arrangement of d'Arsonval. By taking our current now from the ends of the coil and conducting it to the patient, if the capacity has been attuned to the inductance, we should get no perceptible sensory effect, if the contact is perfect, and no contraction of muscles. We should, however, get a heating effect throughout all the tissues, and we should also be able to measure our current by placing a hot-wire milliampère meter in circuit.

The same d'Arsonval arrangement is made by attaching the inner coatings of leyden jars to the secondary terminals of a Ruhmkorff coil. Here we get greater ampèrage than we do from the static machine and a greater heating effect.

The arrangement that is very common at this time, is either to take the alternating current from the line at 110 or 220 volts, or to take the same voltage of the direct current from the line

and convert it into an alternating current by means of a rotary converter. These currents are then stepped up, through a step-up transformer, to ten thousand or more volts, which become the feeder to the leyden jars in the d'Arsonval arrangement. The d'Arsonval current from this source is of lower potential usually than that of the coil or static machine, and the heating capacity and ampèrage may be very much greater than either. These d'Arsonval currents from the three sources named differ in their therapeutic values according to their difference in frequency, potential and capacity. All are valuable currents, any one of which may be more valuable under certain conditions than the others.

When diathermia is required for its heating effects upon malignant growths or to heat blood and other tissues of the body, the current with low potential and great ampèrage is the one decidedly in favor. In the treatment of high blood pressure, with or without arteriosclerosis, opinions honestly differ as to the choice of current to be used. When there are heart complications and nephritis, the writer has felt perfectly justified and safe in using the currents of higher potential and smaller ampèrage through the static machine transformer. In the majority of cases in fact, while the current from this source does not always reduce the pressure as much, perhaps, as currents of higher ampèrage and lower tension, there is never any disagreeable reaction and the good effects seem to last longer. When suffering a year ago from high blood pressure, I am quite sure. that this was the result in the treatment of my own case.

Auto-condensation is that form of treatment with the d'Arsonval current by which the patient is made the capacity in his circuit. A couch or chair is used, covered with metal, to which a cord from one end of the solenoid is fastened; cushions of different thickness or boards of fiber, according to the resistance desired in the circuit, are placed over the metal covering of the couch. A cord from the other end of the solenoid goes to the patient, and is held by a suitable metal hand piece, or contact is made over the whole abdomen by fastening the cord to a flat metal electrode fitted snugly to the surface.

The current is turned on, the cushion becomes the dialectric, and offers resistance to the current in proportion to its thickness and density. That the patient becomes the capacity the following experiment will show. When your milliampère meter is in circuit and shows a reading of what appears to be the capacity of your apparatus, if you will catch hold of the patient's hand, you will thereby increase the capacity, and the reading of your meter will show an increase of current from fifty to a hundred milliampères.

The ampèrage possible in the newer type of high-frequency machines has been greatly increased, while the spark-gap noise

has been practically eliminated through the ingenuity of Dr. Frederick de Kraft, of New York, by introducing in circuit between the inner coatings of the leyden jars multiple spark gaps. These were at first enclosed by a blue glass spark sound muffler; the metal parts were soon oxidized and were troublesome to keep clean. These have been improved to such an extent that they require no surrounding muffler, are open to inspection all the time and are easily adjusted by a slight twist of one or both of the adjusting knobs. When the flat metal surfaces are oxidized they may be cleaned in a minute with a fine flat file without in any way disturbing their arrangement. The capacity of the circuit may be increased or diminished by adjusting the multiple spark gap. This is an advantage, as it is advisable at all times to keep the current running smoothly.

The multiple spark gaps of Dr. de Kraft are used with the d'Arsonval current only, and are especially adapted to currents of high frequency and of low potential. This arrangement may be used with the d'Arsonval current supplied by the high-tension current from a Ruhmkorff coil. But if the heating capacity of the current is pushed too far and the current used for too long a time, the paraffin or wax insulating the coil is liable to melt and run out of the jacket and the coil will be ruined. This happened to one of my coils last winter.

We know that the Ruhmkorff coil is a step-up transformer. It is usually energized by a one-hundred-and-ten-volt direct current through its primary circuit. When it is transformed through its secondary to a higher potential it gives a current irregularly alternating in character with the preponderance of polarity on one side of the zero line. With this current we are able to excite a direct-current x-ray tube, giving the line of demarkation well defined.

Therefore to excite or feed the leyden jar in the high-frequency currents of today we have—

1. The Rotary Transformer currents; regularly alternating in character.
2. The Coil currents; irregularly alternating in character.
3. The Static current; very high potential; direct in character.

These currents all come from the leyden jar circuits as high frequency currents. That the qualities of these currents differ according to the difference in the qualities of their sources, there can be no question in the minds of those who have had a long experience with all of them. Patients themselves will often decide this question. It is not an unusual experience to have patients who are taking auto-condensation treatments, to express a decided preference for the treatment from the coil or static machine transformer to that given by the rotary transformer. They say it makes them feel better and that the feeling of improvement lasts longer. This cannot be considered as a mere

whim on the part of the patients, as the sense of warmth that they experience from the lower potential currents is very agreeable, and the difference in the noise at the spark gap is a comfort that is very much in favor of the lower potential machine. There is, of course, a reason for this difference of effect. It is probably due to the difference in the degree and rapidity of stimulation of the vaso-motor system of nerves.

The vaso-dilator nerves seem to be especially stimulated by these currents, as shown by the sense of warmth over the entire body when one is taking auto-condensation. In diathermic treatment it is a common experience to see the body temperature raised one or more degrees, according to the amount of current used and to the length of time of treatment. Either of the above methods will usually cause a decided sensation of drowsiness, and it is not at all uncommon to find the patient quietly sleeping.

The d'Arsonval current coming from the static machine transformer has a higher potential than does this current from other sources, even when the ampèrage appears to be the same. The ampèrage, however, from the static machine, even of larger size, never equals that of the other type of apparatus. It has seemed to me that my observation would justify the conclusion, that the intense heating properties of the current of lower potential sometimes overstimulates the sympathetic nervous system, with resulting reaction, which is not always agreeable, while the lighter currents from the static machine cause only a gentle stimulation of this great system of nerves and act more in the capacity of a tonic, to aid nature to help herself, instead of pushing to the limit of capacity tissues that are already weakened by disease.

We find in the high-frequency and high-potential currents the same differences in quality, according to the form of generator. Tesla used a solenoid similar to that of d'Arsonval, as a primary around which to wind a secondary or step-up transformer for the high-potential, high-frequency currents. As a result he raised the potential many thousands of volts higher than that in the d'Arsonval circuit. Some of the physical effects of the Tesla current were at the time quite startling.

The differences in quality of the high-potential, high-frequency currents are shown in quite a number of ways. The quality of their spark discharges is different. The vacuum tube discharges are different. The effleuve from the resonator is decidedly different. These discharges from coil or rotary transformer sources are all more irritating and biting in their sensory effect than those from the static machine.

The effleuve from a static machine resonator is longer; the impulse of the discharge is more decided and may be used to much better advantage than that from other sources for producing fibrillary gymnastic exercises of the muscles or for pro-

ducing muscular contraction of the body of the muscles singly or in group.

Fulguration by the long, fat resonator spark of De Keating Hart, the short burning spark of Riviere of Paris and the desiccating spark of Dr. Clarke, of Philadelphia, have all at times been classified under the one heading of fulguration by the high-frequency current. Dr. Clarke prefers the discharge from a special resonator attuned to the capacity of large leyden jars, excited by a large static machine. The De Keating Hart method may be employed either by a static machine and resonator or by a coil or other forms of step-up transformer and resonator. These are all high-frequency, high-potential currents, but differ very widely in their mode of application and in their therapeutic effects, consequently in the requirements of the different classes of cases.

In conclusion I wish to call attention to what to me (perhaps on account of a lack of sufficient information) seems like an inconsistency in the transformation of energy, as manifested in these currents of high frequency and low potential, as these currents are shown to measure in milliampères upon our hot-wire milliampère meters. For instance, with the average sized rotary transformer apparatus we draw from the line of our street current, one hundred and ten volts and, at the most, five ampères These multiplied together give us 550 watts; a little less than three-quarters of a horsepower of 746 watts. The one hundred and ten volts are stepped up through a transformer to, say, ten thousand volts or more, which must break down the resistance in the spark gap between the inner coatings of the leyden jars. These ten thousand volts charge and keep charged the leyden jars in circuit. Under favorable circumstances when giving treatment, our instrument will show that we are drawing two thousand milliampères. This means two ampères at a pressure of ten thousand volts, through the resistance of machine circuit and of the patient's circuit. Two ampères by ten thousand volts equal twenty thousand watts, this equals a little less than twenty-seven horsepower. If the equation used in computing the units of dynamic electricity is applicable to electricity of high frequency and low potential, we have here represented some very remarkable results.

We of course know that these conditions cannot be true. We can in no sense create energy; we can only change its form If our milliampère meters are correct then in some way that I have never heard explained (but would very much like to) the power factor in our high-frequency currents has been eliminated, and we have what has been called a wattless current. I will endeavor to inform myself as to these conditions, and will be greatly pleased to give any gentleman present my undivided

attention, if he can and will in the discussion explain this, what seems to me to be a knotty problem.

Dr. Roy thanked Dr. Bishop for the paper. Dr. Bishop's claims for the effect of high-frequency currents in lowering blood pressure must be accepted; he is sustained by the conclusions of Oliver, of London, who states that, though its use is purely empiric, high-frequency electricity surely lowers blood pressure and the pressure remains low longer when thus reduced than after any other therapeutic measure. Whether blood pressure ought to be reduced in any given case is another question.

Dr. Williams wished to say something on the method of action of high-frequency electricity. There are two chief causes of excessive blood pressure, namely: adrenal excess or an excessive proteid diet with secondary toxicosis, the theory being that the increase of pressure depends upon the overabundant presence of physiologic or toxic pressor substances in the blood. Taking this theory for granted, how do electrotherapeutics reduce blood pressure? And how is it accomplished also by exercise, or warm or cold baths, or by appropriate diet, or by massage, especially vibratory massage? From all these different modes of accomplishing the same end we may infer that the effect of high-frequency currents is to produce a tissue massage; thus the nutrition of the tissues is stimulated in some way. Whether the effect is to depress the vaso-motor apparatus is not known. Dr. Bishop had pointed out that some patients do better under treatment than others; the same idiosyncrasies are to be observed when employing massage or baths; it is not strange, therefore, that different modalities need to be employed with different patients.

Dr. Williams' motive for making these remarks was to point out that high-frequency electricity is only one of a number of agencies for reducing blood pressure, and that it only combats one of the symptoms and not the causes of the toxicosis.

Dr. Butler had for some time been employing vacuum electrodes about the eye for stimulating the absorption of ocular hemorrhages; would Dr. Bishop explain how this effect is produced?

Dr. Fremont-Smith asked what form of electricity seems most efficacious in producing a prolonged fall of blood pressure? There are many cases which very badly need reduction in some way, cases in which the damage of the primary toxicosis has already been done, and in persons who are losing ground with the constant danger of hemorrhage or of cardiac failure.

Dr. Bishop, in closing, said that Dr. Williams' statement that there are a number of physical means of reducing blood pressure is true; but of that number the uncontrolled use of hot or cold baths is most dangerous. The further statement that high-fre-

quency electricity produces a tissue massage is also true; but it is a form of massage unobtainable in any other way. The experiment of passing high-frequency currents through a test tube containing a solution of albumen shows that the albumen is cooked evenly throughout, there being no greater coagulation to be observed at the points at which the current enters and leaves the tube than in the center of the tube. Thus the tissue massage obtained by the current is evenly distributed throughout the regions traversed by the current.

He replied to Dr. Butler that the effect of the vacuum electrodes is to dilate the blood vessels about the eye and thus promote the absorptive power of the tissues. Care needs to be taken that the current used is not too stimulating, because thus the vessels may be caused to contract and the treatment become futile.

To Dr. Fremont-Smith he replied that his experience indicates that high-frequency currents derived from the static machine transformer are less positive in reducing blood pressure at the very first, but the reduction is more prolonged than after the use of any other form of electricity.

He thought that no one familiar with the effects of electricity or with the physiology of hypertension would neglect the application of proper dietetic and hygienic principles to the management of such cases.

ALVAR NUÑEZ CABEZA DE VACA, THE FIRST EUROPEAN FAITH HEALER IN AMERICA.

1528–1536. *

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(Abstract.)

Alvar Nuñez Cabeza de Vaca appears first in history as the treasurer and high constable of the expedition of Panfilo de Narvaez, which sailed from Spain on the 17th day of July, 1527, to conquer and settle the province of Florida, in America. On Good Friday, the 15th of April, 1528, Narvaez landed his forces in a harbor which the pilots called Bahia de la Crux; today known as Tampa Bay. For several months the Spaniards wandered through the woods and swamps of northern Florida, suffering from starvation, disease and attacks by hostile natives. Disheartened in finding no gold, or wealthy cities, like Cortes had discovered in Mexico, the command worked its way back to the Gulf of Mexico. Seeing nothing of their ships, the white men

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laboriously constructed five small boats, in which the 250 survivors embarked and set out to seek their countrymen in Mexico. Coasting to the West for more than a month, the flotilla passed the mouth of a very large river, from which the voyagers dipped up fresh water. Doubtless, this was the Mississippi River, not reached by Hernando de Soto until fourteen years later. A few days more of this miserable navigation, when the little vessels were struck by a storm and swamped or wrecked.

The boat commanded by the treasurer, Cabeza de Vaca, and another in charge of Captains Castillo and Dorantes, were stranded upon an island; the occupants, about 90 in number, with difficulty escaping to the shore. This occurred on the 6th day of November, 1528. On account of their mishaps, the Spaniards named the island Malhado, or Island of Misfortune; probably the Velasco Island of the present day, lying off Galveston, Texas.

Malhado was inhabited by two bands of Indians, the Capoques and Hans, who received the shipwrecked white men in kindness, carried them to their huts and brought supplies of food every morning and evening. In spite of this friendly treatment, the Spaniards died off rapidly, so that by the spring of the following year only a few Europeans remained alive. From Cabeza de Vaca's *Relacion*—one of the rarest of books, first published at Zamora, in 1542—I translate the following:

"On that island [Malhado] which I have described they wish to make us physicians, without examination or asking us for diplomas, because they cure diseases blowing upon the sick, and with that blowing and the imposing of hands they cast out infirmity. They ordered that we should do the same and be of use to them in some way. We laughed about it, saying that it was folly and that we did not know how to heal; and in consequence they withheld food from us until we should do what they said. And seeing our obstinance, an Indian said to me that I did not know what I uttered in saying that what he knew availed nothing, for the stones and other things produced by the fields possess virtue, and that he with a hot stone, drawing it along the stomach, took away the pain and cured, and that we who were extraordinary men, surely had greater efficacy and power. Finally we saw ourselves in so much need that we had to do it, without fearing that anybody would impose upon us the penalty for it. The manner that they have of curing themselves is this: that on finding themselves sick they call a physician and after being cured they give him not only all that they possess, but seek among their relatives for things to give him. What the practitioner does is to make some scarifications where the pain is, and suck around them. They apply cauteries of fire, a remedy among them held to be very beneficial, and I have tried it and succeeded

well with it. Afterwards they blow upon the painful spot, and with this they believe that the illness is removed.

"Our mode of curing was to bless and blow upon the sick, reciting a Paternoster and an Ave Maria, and to pray the best that we were able to God our Lord that he would give them health and influence them to treat us well. God in His mercy willed that all those for whom we supplicated, as soon as we made the sign of the cross over them, should tell the others that they were sound and well. For this the Indians treated us kindly, they deprived themselves of food to give it to us, and presented us with skins and somes trifles."

The next year, the Indians carried the remaining Spaniards in canoes over to the mainland, and for six years the white men lived among the tribes inhabiting the coastal plains of Texas. Late in the year 1534, the redmen resorted to the region where the prickly-pear cactus grew abundantly, in order to live upon the fruit or *tunas*.. Cabeza de Vaca, Captains Castillo and Dorantes, and an Arabian negro called Estevanico, here came together again, and agreed to fly from these people and try to reach Mexico.

Accordingly, these four men set out towards the sunset, and, fortunately, arrived among some friendly Indians, the Avavares, with whom they spent the winter. During this period the Europeans performed some wonderful cures, so that the natives came from all parts to be healed and have their children blessed, declaring that most truly the white strangers were children of the sun. One day, some Indians came from the Susolas, an adjoining band, and begged Cabeza de Vaca to treat a sick man. He found the patient apparently dead, and his house pulled down, a sign that the one who dwelt therein was no more. Removing the mat with which the Indian was covered, Cabeza de Vaca blessed the body and breathed upon it many times; after which he went through the camp curing many who were sick of a stupor. The man who was dead soon rose up and talked and ate, and visited his mourning friends causing great wonder and fear among the natives. This case, and similar performances by Cabeza de Vaca, provoked an Austrian monk, named Caspar Plautus, in 1621, to protest against laymen like Cabeza de Vaca performing miracles.

In this same region, Cabeza de Vaca encountered the bison, or American buffalo, and was the first European to see and describe these important animals.

At the expiration of eight months, reckoned by moons, the Spaniards passed on to the next tribe, the Maliacones, and from them to other Indians; and so on westward through what is now the state of Texas. Everywhere the white men were looked upon as heavenly visitants, possessing the ability to heal the sick and the power of life and death. Frequently the Spaniards were ac-

companied by three or four thousand natives begging to be cured of their ailments or simply touched by the strangers. All who were treated declared that they were well, and the Indians even believed that they could not die while the whites remained among them. Nor was Cabeza de Vaca's treatment confined to mental healing. In a place where the natives lived upon pine nuts (*Pinus edulis*), an Indian was brought to the treasurer with an old arrow-wound in his shoulder, the point of the arrow upon the heart. With a knife he possessed, Cabeza de Vaca opened the breast, and with the point of the knife drew out the arrowhead, which was very large. He closed the wound with two stitches, staunching the blood with hair from a hide. Another day he cut the stitches and the Indian was well. The natives celebrated the event with dancing and feasting, and spread the fame of this early case of "heart surgery" throughout that land.

In time, Cabeza de Vaca and his companions crossed over the Rio Grande into Mexican territory, where the natives lived in permanent villages, the houses constructed of earth. Here were found maize, beans, and coral from the South Sea. A few days more, our party came upon a Spanish outpost on the Rio Petatlan, and from there went on to the new town of San Miguel de Culiacan, which they reached on the 1st day of April, 1536.

The multitude following Cabeza de Vaca did not want to part from him; but he distributed his gifts among them, and finally induced the Indians to return to their homes and plant corn. And so ended one of the strangest and most remarkable journeys on record.

Allowing for unintentional exaggeration by Cabeza de Vaca and for his ignorance of psychology and scientific medicine, still we must admit that most of what he relates about his cures is true. Faith healing and psychotherapy explain the results. In chapter 27 of his narrative, Cabeza de Vaca reveals the secret of these cures when he says: "he who was sick believed that we could cure him." The Indians firmly believed that the bearded white strangers came from the sky, that they possessed supernatural power, and could and would heal them. Conditions were perfect for faith healing and suggestive treatment, as the natives were not only receptive to such therapy but lived in a state of active expectancy. All over the three Americas the Amerinds were looking and waiting for a saviour; a *white* hero god who would come from where the sun rises, to save the people from suffering and oppression and institute a new and better order of things. Moreover, the culture-stage of the American Indians and the practices of their own shamans and medicine-men, made the natives ready subjects for suggestion.

Blowing upon and sucking the painful spot, either by the sufferer or another person, are instinctive methods of relieving pain, practiced alike by savage and civilized beings. In this con-

nection it is interesting to note that in the Latin tongues the verbs meaning, to blow upon—like *soplar* in the Spanish—also denote suggestion.

In addition, Cabeza de Vaca made use of heat, the actual cautery, and native healing herbs, of which the Indians had considerable knowledge.

Dr. E. L. Morgan said that there was nothing new in the fad of mental healing, it had been practised by the priesthood and others for 3,000 or more years. In fact the subject of demonology was as old as the human race. The first principle of the doctrine was the power of evil spirits in human affairs, and especially as the cause of disease. Second, the probability or possibility of performing a miracle, of curing one possessed of a devil. Savages, especially the American Indian, to some extent reasoned well from effect to cause, and practiced medicine with drugs, set fractures, etc., but believed in demons to a great extent as causing many of their ills. There are two medical men among them, or rather a combination of the two; the regular medicine man who used remedies, and the charlatan who was simply a mind impressor. The Shaman cast out devils and thereby worked a miracle or cure.

The fathers maintained the reality of all pagan miracles as fully as their own, except that doubt was sometimes thrown on some forms of healing. Alvar Cabeza de Vaca was like others before and after him. Dr. Morgan had seen the Indian with his medicine or charm attached to or about his person; such things as eagle feathers, bear claws, or bear hide, that gave success in love, peace, war, and hunting.

The followers of Mohammed in some parts of the world often wear quotations from the Koran which protect them according to their belief, and are a great mental stimulant for the cure of disease, and ward off evil or the effects of the "evil eye." Early Christians wore charms, crosses, &c., for the same purpose; the cross itself was in use in many countries; and centuries before the Christ was born the cross was venerated and worshipped. It was used by the American Indian and others to ward off evil before the Church was established. All these things coupled with faith, are mental stimulants, and give consolation to the believer, acting on both soul and body.

Our knowledge of the influence of the mind over the body is yet in its infancy. Knowingly or unknowingly from the remotest ages, men have practiced mental therapeutics. Religion, medicine and superstition had a common origin. Superstition and religion are near kinsmen. The play of a vivid imagination, the dread of demons, and religious belief were and are powerful agents in the cure of disease. I do not wish to wound the feelings

of my confreres, but if they will delve into the past, they will find astounding facts; many sacred landmarks, dogmas, &c., it will be found existed ages ago in the oriental religions; before Christ was born. The oriental religion that came to Rome before Christianity, taught practically much that Christianity taught, and each accused the other of borrowing its rites. The ruins of the pre-christian religions are scattered over Europe. And all practised faith cure.

Dr. J. R. Swanton (Bureau of American Ethnology) said: Among the Indian tribes which formerly occupied the territory of our southern states the system of doctoring was much the same. Nearly all diseases were attributed to some animal or object, and it was believed that some resemblance could be traced between the animal or object and the symptoms of the disease. There was a deer disease, a fawn disease, a wolf disease, a dog disease, a squirrel disease, a rabbit disease, a turtle disease, a thunder disease, a sun disease, etc., and also there were diseases brought on by a number of purely imaginary beings such as the horned snake, the many snakes, snakes that raise themselves perpendicularly out of the water to a great height and then fall sideways with a splash, "the chief deer," a little deer about three feet high spotted like a fawn, a snake without body which ascends into the upper air in whirlwinds, also by parts of animals, such as the tongue and eye of the deer; two important causes of disease were exhalations from the dead and from a woman during her monthly period.

The disease connected with the sun was naturally enough sunstroke; the connection of the other animals with the diseases named for them was purely fanciful. Thus the eagle was supposed to cause rheumatic pains about the shoulders by perching on them; fire produced fevers; the raccoon produced a kind of disease in children in which the stomach is greatly distended; the slug produced a kind of disease in which great quantities of thick mucus are coughed up. In still other cases it required a special explanation to tell what relation existed between the animal and the symptoms.

Now as to the remedies. According to one myth, in the beginning of things each animal announced what disease it caused and told the proper remedy for it. At the same time the Indians admit that the treatment of no two doctors is the same, and that some can cure some diseases, others, other diseases. Besides this there were men called kihlas or "knowers," or, as we should say, "diagnosticians," who could tell what the disease was but did not necessarily venture to cure it, although some doctors were also kihlas. Medicines were made out of plants of all sorts. Sometimes one plant was used, sometimes several. They were almost invariably mixed in water, and usually they were boiled, but sometimes they were taken cold. Sometimes the patient

or the affected part of the patient's body was bathed in this medicine, sometimes he drank the decoction, but if possible it was administered both externally and internally. Among the medicines, I may mention button-snake root, ginseng, angelica, Jerusalem oak, cedar, buckeye, devil's shoestring, mistletoe, black gum, willow, mulberry, wild plum, wild rose, wild grape, elm, mullein, elderberry, sassafras. Some of these were used as emetics and some as purgatives.

The mixing together of the ingredients was, however, only a part of the process of doctoring. After this was done it was essential that the doctor, who faced the East, should intone a formula over it and blow into it. This was done four times, and the treatment was generally repeated four separate mornings, after which an interval was allowed to elapse, when, if necessary, the treatment was repeated once more. This formula and the blowings were supposed to communicate the final virtue which made the remedy effective. Nevertheless the doctors were not unaware that in some cases they could be dispensed with. When speaking of a certain herb an old doctor said to me with enthusiasm "If you use that it will have effect whether you blow into it or not."

Besides giving medicines, the doctors frequently treated by sweating their patients. To produce this result the patient was usually placed on a frame covered with Spanish moss, heated stones were put underneath, a blanket drawn around the patient so as to cover the stones also, and finally water was thrown upon the stones, which turned to steam and soon brought on a profuse sweat.

Blood letting was brought about as follows: A small splinter of flint was taken and with it several incisions made over the part believed to be affected, the incisions being deep enough to draw the blood. Then the lips were applied to this and considerable blood sucked out. Often the doctor declared that some foreign object had lodged in this place and he pretended to suck it out, exhibiting it afterward to the fascinated gaze of the audience. Witchcraft was supposed to be due to a foreign body of this kind sent into the victim by magic. Among some tribes, notably the Tlingit of our Alaskan coast, witchcraft seems to have been thought of as the principal cause of all disease, and nearly all deaths were traced to this cause. Among these people and the neighboring Haida the medical practice was much more picturesque, the doctor appearing with long bones through his nose, and unkempt hair, sometimes with a mask on and with a rattle in his hand, while an assistant beat upon a small drum. When he began his treatment he started running around the fire in the house in which his patient lay, going faster and faster and always in the sinistral circuit. At that time it was believed that one or more of his spiritual helpers incarnated themselves

in him and it was through their agency that the cure was effected, *i.e.,* they then told him what the cause of the trouble was and, in case of witchcraft, who caused it.

Still another theoretical cause of sickness was the supposition that the patient's soul had been carried off by some dead spirit, and it was then the duty of the doctor to go after it and bring it back.

A curious application of medical ideas was their extension over fields where we do not ordinarily consider that they belong. Not merely did the Indians take medicines to get rid of what we should regard as positive sickness, but some tribes took medicine to obtain future advantages. Thus there was a medicine to give one a good memory, a medicine to make one rich, a medicine to make one a chief, etc., a bad memory, poverty, and a plebeian condition in life being thus categorized as diseases. Such medicines, however, often consisted of things suggestive of what was desired, which were to be rubbed on the body or brought in contact with the person in other ways rather than of decoctions to be imbibed. The whole process illustrates the Indian thought that physical, social and spiritual advancement are due not to, or not merely to, energy, patience, temperance and the other virtues, but to getting in touch with a personal or impersonal power or source of energy which deals in just that desired commodity and can furnish it if approached in the proper manner. Medicine proper with them, on the other hand, is the counteraction or negating of the same kinds of influences which have, intentionally or otherwise, worked harm to the afflicted party.

Dr. Tom A. Williams said that of course credulity still exists in our modern beliefs, and there are very many persons who believe that they may obtain virtue by getting in touch with a great cosmic force. This is out of tune with our present knowledge; and it is painful to hear in a medical society the statement that faith in the powers of the doctor is the basis of psychotherapy. While there was much of mere credulity in the faith healing of the early Catholic church, there was also much real psychotherapy practised by men like Bossuet, Fénèlon and others; and these men, by their writing, show that they were aware of what they were about. Modern psychotherapy has its efficacy in a recognition that psychic disorders originate in incorrect mental processes, and proceeds to cure the disorder by correcting these processes by explanation, persuasion, education, or whatever method offers the best means of securing this end.

SAN MARTIN Y SATRUSTEGUI'S OPERATION FOR GANGRENE.*

By George Tully Vaughan, M. D.,

Washington, D. C.

The cause of gangrene is often located in the arteries that supply the affected part; either an organic or functional change that interferes with the blood supply. In arteriosclerosis many branches may be involved and in any case in which the arteries are so changed as to fail in their duty the possibility of other vessels taking their place is an interesting problem that has long attracted physicians' attention. Naturally the vessels that first suggest themselves are the veins, of which nature has furnished such an abundance as compared with arteries, that it would seem a simple thing to press them into service or borrow some venous tributaries to carry arterial blood, while enough veins are left to take care of the return current. One important obstacle to the conversion of a vein into an artery is the existence of the valves which oppose any current toward the periphery; but experiments on animals and operations on man have shown that to a great extent this valvular opposition can be removed by the force of the arterial current.

In 1902 Satrustegui of Madrid, Spain, operated on a man 52 years old for gangrene of the foot, making an end-to-end femoral arterio-venous anastomosis. The result was a failure, making amputation necessary, and death followed. He next performed a lateral anastomosis on a woman 75 years old for gangrene of the foot. This patient recovered after the removal of the gangrenous foot, so that probably in this case the operation prevented the extension of the gangrene. At least 58 operations of this kind, including my own, have been reported with more or less success on patients of both sexes, from 20 to 84 years of age, where gangrene was either only threatened or actually present and well marked. The results were 32 failures, 7 doubtful or only partially successful, 19 successful, and 15 deaths occurred within 30 days after operation. Of these deaths few were directly due to the operation, but occurred from gangrene, erysipelas and complications. On the lower extremities 54 operations were done and 4 on the upper; all the latter were reported as successful.

Seven methods of anastomosis have been used. 1st., end-to-end crossed method, in which after the division of the vessels, the proximal end of the artery is sutured to the distal end of the vein, and the proximal end of the vein is sutured to the distal end of the artery.

2d. End-to-end in which the proximal end of the artery is

* Read before the Medical Society April 30, 1913.

sutured to the distal end of the vein, the other open ends being closed by ligature.

3d. End-to-end in which the proximal end of the artery is invaginated into the distal end of the vein.

4th. End-to-side in which the proximal end of the artery is sutured to the opening made in the side of the vein.

5th. End-to-side, "intubation" method, in which the proximal end of the artery is drawn into the opening in the side of the vein.

6th. Side-to-side, in which an opening is made in the artery and vein on the sides presenting towards each other, and the edges of the two openings are sutured together.

7th. Side-to-side, in which after lateral anastomosis the vein is ligated on the proximal side of the union to prevent any reflux of blood in the vein.

As yet it is too early to say which is the best method, but the experience already gained seems to prove that some methods are better than others. The preferable methods are the end-to-end, perhaps the crossed methods or the side-to-side method with proximal ligation of the vein. Carrel and Guthrie found in their experiments on dogs that in four or five hours after an end-to-end crossed anastomosis of the femoral vessels there was reversal of the circulation, the femoral vein and its tributaries being filled with red blood and pulsating, while the femoral artery and its branches were filled with dark blood and no longer pulsated. With lateral anastomosis they failed to get the currents reversed but they did not ligate the vein on the proximal side.

Hubbard in one case of amputation of the leg, one month after a crossed anastomosis, found arterial blood still in both tibial arteries and none in the veins. In another case of amputation, above the knee, five weeks after an end-to-end anastomosis, Hubbard saw red blood spurt from the femoral vein. In another amputation above the knee, fourteen days after end-to-end anastomosis, Armour and Smith found the femoral vein pulsating like an artery.

The indications for the operation as laid down by Wieting are as follows: "All other forms of conservative treatment must have been attempted first. The condition of nutrition of the patient must be good. Infection if present must not be extensive. Oedema must readily subside on raising the foot so as to prove that the venous circulation is sound. The most favorable cases are those in which the gangrene is only threatening. Pulsation must necessarily be present in the femoral artery and the femoral vein must be free from thrombosis."

My own case is as follows: W. K., colored man, age 65, nativity Virginia, laborer. Was admitted to Georgetown University Hospital in February, 1913. His trouble began in December, 1912, when he was struck on the ankle. Soon afterwards the

foot and leg began to pain and continued to do so, and the four lesser toes of the right foot became gangrenous ; a line of demarcation formed at their bases. No pulsation could be felt in either tibial artery. No sugar in the urine. Marked arteriosclerosis. Arterio-venous anastomosis was performed February 17, under general anesthesia, according to the Bernheim-Stone method, side union with proximal ligation of femoral vein. The vessels were exposed about the apex of Scarpa's triangle over a space of about two inches. The circulation was controlled by strips of rubber tubing surrounding the vessels and clamped by hemostats. A nearly transverse incision was then made in each vessel so that the two openings were exactly opposite each other. Clots were washed away with salt solution, the edges of the cut vessels anointed with sterile vaseline, and united with a fine-needle, and one continuous row of silk sutures through all the coats of the vessels. The constriction around the vein was first removed and no bleeding followed ; then the distal constriction around the artery was removed ; this was followed at once by leakage and the two sutures were required to make the joint tight. The last constriction, the one on the proximal side of the artery was now slowly removed, with no leakage. The femoral vein was ligated with catgut in two places on the proximal side and divided between the ligatures. The characteristic thrill was felt in the vein and the pulsation in the vein was stronger than that in the artery below the anastomosis. The skin and fascia were closed with catgut and the gangrenous toes were amputated at the metatarsophalangeal articulation.

The foot and leg were enveloped in cotton and the patient put to bed with the foot and leg elevated. The next day the foot and leg were warm and free from pain. Three days after the operation the condition was satisfactory ; the superficial veins, especially the long saphenous, showed marked dilatation. After three weeks in bed the patient was permitted to get out of bed and walk. The wound in the thigh healed by primary union but the wound caused by removing the toes and left to granulate was still unhealed.

At the present time this wound is nearly healed, 72 days after operation. The patient walks around comfortably. The leg swells when he stands a long time and sometimes he has pain in the foot. The foot is warm ; no pulsation can be felt in it, but the superficial veins of the foot, leg and thigh are dilated. The thrill and bruit are distinctly felt and heard over the point of anastomosis and downward nearly to the knee and upward well above Poupart's ligament.

Dr. E. P. Magruder had seen the patient presented by Dr. Vaughan, before the operation ; the condition of the foot at that time would have induced most surgeons to amputate the foot or

the leg higher up. Not long since Dr. Magruder had studied a collection of arterio-venous anastomoses ; there were only 15 successes in 52 cases. In a collection of 60 odd cases there were 32 different operators. The selection of cases is difficult and most important for success. Moschowitz's method of determining the proper level for operation is interesting ; the limb is elevated until pallor of the skin appears ; then the limb is lowered to determine the limits of the return of the normal blush. Catheterization of the arteries has been of some value in cases where the threatened gangrene was due to thrombosis ; Severenu, of Bucharest, was the first to use this method. A Budapest surgeon in 1897 was the first to do arterio-venous anastomosis ; his operation was done for the relief of an axillary embolism. Cohn, of Breslau, in 1911 ridiculed the idea of resuscitating a threatened limb ; but his ideas have been disproved.

Dr. Jack said that the perfecting of this operation opens a wide and promising field for the prevention of gangrene. There is a recent report in the literature of a case in which there were three successful operations of this kind in one patient.

Dr. Webb said that he had been present at Dr. Vaughan's operation and counted it an unusual privilege. In the literature some surgeons have offered strong objections to the operation. Halstead and Vaughan in 1912 concluded that in human beings the arterial pressure would not overcome the valves ; that the arteriovenous opening would not remain patent, and that the newly established circulation would not overcome the peripheral capillary thrombosis. Halstead said that the only field for the operation is in cases of traumatic destruction of an artery. But later work has shown that the practical field for the operation has widened and that it will not only be useful in cases of traumatic destruction of arteries, but in threatened gangrene from vascular disease.

CASE OF HYDROPHOBIA.*

By Philip S. Roy, M. D., and H. J. Nichols, Captain Medical Corps, U. S. A.

Washington, D. C.

A man 20 years old was brought April 7, 1913, to George Washington University Hospital by Drs. Maphis and Trow, of Warrenton, Va. Dr. Roy was called in consultation. Both physicians had suspected the case to be hydrophobia but could obtain no history of the patient having been bitten or having come in contact with any animal suffering from rabies. When first seen by Dr. Maphis April 4 the patient had no fever ; mind

* Reported by title to the Medical Society May 28, 1913.

clear, pulse and temperature normal. The symptoms were headache, stiffness in all the muscles, and some difficulty in swallowing. He had been sick in bed since Monday, but had only received home treatment. April 5 Dr. Trow saw the patient for Dr. Maphis. There was then delirium manifested by the patient going into the yard and throwing rocks at imaginary persons. Swallowing either solid or liquid food was difficult, causing a spasm of the throat and chest muscles. This spasm would also be caused by the slightest current of air or by noises. April 6 all the symptoms had increased and when brought to the hospital April 7 the patient was unconscious; temperature 100, pulse 80. Could only swallow very small quantities of water, and this always caused a spasm of the throat and chest muscles. It was only about an hour before the patient died that Drs Maphis, Trow and Roy obtained the following additional history from his father.

March 5 the patient went into the yard at night to separate his two dogs from fighting with a stray dog. When he returned to the house he said that the stray dog had gone off, but made no mention of having been bitten by the dog. April 5 he said in his delirium, to his father, "I could not stop that dog from biting me." The stray dog has never been found and neither of the other dogs has developed hydrophobia. We only made our diagnosis of hydrophobia after the above information had been given. The pathological report of Capt. Nichols made the case complete.

We feel this case is of more than usual interest because of the obscure origin of the infection.

Dr. Nichols made the following pathological report: The brain was received at the laboratory 18 hours after an early autopsy. Smears were made from the cortex of the motor region and from Ammon's horn; fixed in methyl alcohol, washed and stained with the following: Sat. Alc. sol. basic fuchsin 0.3, Sat. Alc. sol. methylene blue 2.0, distilled water 30. The stain was poured on the smear and heated until it steamed; it was then washed off.

Preparations made in this way showed a large number of typical Negri bodies in the nerve cells, which settled the diagnosis. Sections of the cortex stained with eosin and methylene blue also showed typical Negri bodies.

At the time of the autopsy a piece of the brain from the motor region was placed in glycerine and the following day a small piece of the cortex was ground up in a mortar with sterile salt solution and 0.25 c.c. of the emulsion was injected intracerebrally in a rabbit. No effects were noticed until April 21, 13th day, when the rabbit seemed weak and stopped eating. It became progressively weaker without any definite paralysis or convulsions and died on the 23d. Smears and sections showed numerous Negri bodies.

A second rabbit was inoculated from the fresh brain when it

Negri Bodies in the Brain.

reached the laboratory. This rabbit died in two days, presumably of mixed infection.

Summary: Negri bodies were found in smears and sections of the brain. Inoculation of a rabbit resulted in death in 15 days; Negri bodies present in smears and sections of the rabbit's brain.

TABES WITH UNUSUAL DISTRIBUTION OF DEEP PAIN LOSS.*

By Tom A. Williams, M. B. C. M. (Edin.),

Washington, D. C.

The radiculitis which causes tabes most often commences in the deep sacral roots and those of the lower lumbar region. Aside from the subjective symptoms, the earliest signs are most often loss of the Achilles reflex and diminution of the sense of deep pain in that tendon and in the calf.

The syphilitic leptomeningitis, however, which is the forerunner of tabetic radiculitis, may preponderate in its effects upon roots higher up; and we have then the forms known respectively as upper lumbar, thoracic, brachial, cervical and cranial-nerve tabes. Some of these have been described only rarely, and many of them without reference to the loss of the sense of deep pain, the clinical import of which is not always appreciated.

I have recently seen two cases where the perception of deep pain in the Achilles tendon and leg was intact, but where it was greatly impaired in the thigh, that is to say, in the distribution of the upper lumbar roots.

Case I.—A Roumanian, aged 34, contracted syphilis in 1904 and was then treated orally in Paris by Fournier. Coming to the United States and being unable to obtain the preparation prescribed, treatment was relaxed, and in 1911 he began to have severe pains in the left lower chest and slight pains in the legs. In the following year micturition became difficult. When he was referred to me by Dr. B. M. Randolph, March 26, 1913, the reflexes did not respond in the patellar, Achilles, lower abdominal and bulbo-cavernosus regions; the others were present. The right pupil was rigid and dilated, while the left pupil, although more dilated, reacted to light. The right optic disk was pale. Motility was impaired only in the lower abdominal region, which protruded, but could be moved. The remarkable feature of the case was that the pain of firm pressure was everywhere clearly and rapidly felt below the knee; but in neither thigh did the patient receive any painful sensation whatever, however severe

* Reported to the Medical Society April 2, 1913.

the pressure. No impairment of the sensibility to pin prick or wool was discovered, but there was a diminution of the vibration sense of the left ilium.

Case II was not a characteristic tabes, but presented the pathological prodromata of that disease. The young man, who had contracted syphilis only 16½ months before I saw him had been treated once by salvarsan (intramuscular) and by 1¾ grains of protiodide of mercury by the mouth, for a year. In spite of this, headaches ensued fourteen months after exposure. About the same time he showed a marked coarse tremor of the hands, of intentional type ; tremor of the tongue and unsteady gait occurred also. Micturition became slow and halting, and erections became ineffectual ; poor appetite and constipation ; vomiting occasionally occurred ; the temperature at times rose to 100. His temper had been irritable.

His physician thought that the tremor might be mercurial, and ceased to give the drug. The headaches and mictional symptoms improved slightly ; but the tremor did not ; so a month later, I was asked to advise whether to resume specific treatment or not.

My *examination* showed that the reflexes of the patella were absent, with a slight response of the left by reinforcement. Achilles reflexes were active. The radials were doubtful on account of tremor of the arms. The maxillary was faint ; Plantar flexion was faint. The abdominal and cremaster reflexes were present, but that of the bulbo-cavernosus was absent.

Pin prick, touch, cold, vibrations and pressure pain, were felt everywhere except that in the thigh muscles and the right neck and arm deep pain could hardly be elicited.

Motility was not enfeebled ; but station was slightly unsteady. He could not stand steady on the right leg and there was a Romberg sign of the left leg. The gait was incoördinate and spastic especially on turning. Heel and knee test with eyes closed, performed with great tremor. Dysdiadokokinesis much impaired. Finger to finger test showed much coarse tremor. There was coarse tremor of tongue, jaw, face and neck, but not of the trunk. No nystagmus. Passive raising of the leg in recumbency produced an oscillation of 6 to the minute. There was a tremulous speech due to a coarse tremor of tongue ; but the lips did not tremble during speech. The laryngeal tone was steady.

The skin was covered with branny scales. The veins of the left fundus oculi were larger and more tortuous than normal.

Summary : A distinctly rubro-spinal tremor, loss of the patellar and bulbo-cavernosus reflexes and loss of pressure pain sense in part of the body, along with the history and mictional symptoms, indicate lues of the central nervous system, even without Wassermann test or lymphocyte count. The character of the tremor entirely excludes mercury in its causation, for the mercurial tremor is of the toxic type and much finer than the coarse oscil-

lations characteristic of the lesion of the cerebello-rubro-spinal system, the characters of which are now classical and need not be particularized. The lesions I supposed to be present were (1) an arteritis proliferans of the vessels supplying the rubro-spinal system in the midbrain: this was the cause of the tremor; (2) a widespread leptomeningeal specific radiculitis, causing the loss of reflexes and of pressure pain sense.

The *Treatment* recommended was salvarsan, followed by mercury.

The *Prognosis* given was an arrest of the syphilitic process with a probable diminution of the tremor, possibly sufficient to permit the work of an artist to be resumed.

Result: The first dose of salvarsan produced a tremendous diminution of the manual unsteadiness, and the patient began to paint, somewhat tremulously but effectively, in ten days. A second dose, a month later, caused a further improvement, so that the tremor is now (two months) hardly perceptible; all the deep reflexes have returned, although that of the right patella is hard to elicit; the deep pain sense is everywhere present, although less easily elicited than normal over the areas impaired. His nutrition is greatly improved, and he has no pain nor any of the spasticity nor incoördination formerly present.

SYPHILIS AMONG SCHOOL CHILDREN.*

By H. H. Hazen, M. D.,

Washington, D. C.

There are, of course, two distinct types of syphilis that may be recognized in young children: the hereditary and the acquired forms. During this period of life lues may be acquired in three chief ways: first, as the result of sexual congress; second, as the result of an attack by an older person affected with the trouble, and, third, through some intermediate agent.

Venereal disease among the young is far from rare. Pollock has estimated that each year in Baltimore at least 800 cases are acquired by children under fifteen years of age. She reports a series of 189 cases extending over a period of six years, and finds that 36 of these patients—3 white and the rest negro children—had syphilis. In general she finds that under six years of age more cases of venereal infection occur among the white children, but that after six years of age, or when the sexual element is beginning to assert itself, there are more cases among the colored.

* Read before the Medical Society, April 23, 1913.

She concludes that a large number of cases in both races are due to the old superstition that a man can rid himself of infection by having intercourse with a virgin. Comparatively few cases are due to perverted sexual instinct.

In Washington, venereal disease among the young is common, especially among the colored. In my work at Freedmen's Hospital I have encountered six definite and one probable case of acquired syphilis among school children, out of a total of 240 patients with acquired syphilis. In addition to these cases there have been many cases of chancroid and gonorrhoea at both the male and female genito-urinary departments.

The following cases of acquired syphilis have come under my observation.

Case I. Negro boy, aged 14, who was brought to the clinic by his aunt. This child was not pubescent, but gave the history of having suffered from "toe itch," so he may have had hookworm, although we could find no eggs in the stools. Examination revealed the presence of a typical chancre and mucous patches, and a rather unusual secondary eruption that almost resembled pityriasis rubra pilaris. The Wassermann was positive and spirochaetes were demonstrated in the chancre. He had attended the sixth grade in a public school at Georgetown, and related that three of the boys and three of the girls of the school had formed a "social club," and had had intercourse nearly every night, it being the custom to change partners frequently. His aunt, however, thought that he had gotten his infection from an older girl who lived near him. The patient stayed two weeks in the hospital, but never returned for treatment.

Case II. A negress, aged 14, who attended the 7th grade of one of the southwest schools, came to the dispensary because of a chancre and typical annular eruption. She stated that she had acquired the disease from her older cousin who lived in the same house. She had, however, had intercourse with several of her school friends. She kept up treatment for about three months, or until all lesions had disappeared.

Case III. A negress, aged 19, a student at the normal school, came to my clinic because of a chancre and an annular eruption on the body. She had acquired the disease from her lover and denied intercourse with any one else. Treatment was kept up for two months.

Case IV. A negro girl, aged 14, was brought to the hospital because of an eruption and failing speech. She was a first-year student in the high school, and the teachers reported that she was very bright until the past three weeks. Examination revealed an old chancre, condylomata and an annular eruption. She also had a brain lesion that impaired her speech. It was apparent, however, that the syphilis had antedated her mental change. In

spite of the fact that treatment was pushed to the limit she rapidly became worse, and was taken away by her family to be committed to an institution.

Case V. A negro girl, aged 13, was brought in by her mother because of sore throat and a breaking out. Examination showed a genital chancre, a follicular eruption becoming annular, and mucous patches of throat. The child seemed very docile and innocent, and the mother left in a rage when told the diagnosis.

Case VI. Negro girl, aged 12, attending the 6th grade, was brought to Dr. J. J. Richardson's clinic because of throat trouble. She had been operated upon for tonsils and adenoids about nine months previously. The throat now was definitely syphilitic, and she had a late syphilitic papular eruption upon her face. The Wassermann was strongly positive. The teeth were somewhat suggestive of hereditary syphilis, but she had no other characteristics of this mode of infection, nor was the family history suggestive. It was impossible to learn how the infection was acquired.

Case VII. Curiously enough, only today a girl of 15 came to my clinic with a very marked case of condylomata as well as a few papules upon her body. She was a pupil in the eighth grade of one of our schools, and upon investigation has proven to be common property to the boys of the school as well as the boys of the neighborhood. No history as to the source of infection could be obtained.

In this group of seven cases five were attending school while in the contagious period. Three admitted intercourse with their fellow pupils while genital lesions were present. It requires no imagination whatever to see the possibilities of widespread infection, even if we admit that syphilis is but rarely conveyed by an intermediate carrier. An interesting question that arises is whether or not hereditary syphilis is contagious and whether or not such children should be barred from the schools. We know that late syphilis of the acquired type but rarely causes an infection, so we are justified in assuming that hereditary syphilis is no more dangerous, and yet in both groups of cases the treponema pallidum must be present, and so the source of a certain amount of danger.

The mere fact that acquired lues occurs but rarely in white children does not relieve us of responsibility, for the prevalence of this disease among the colored race threatens us in nearly every path of life; the negroes prepare our food, look after our children, wash our clothes; in short, are in a position to infect us in a thousand and one ways. Again these diseases form a serious economic burden upon the community, probably nearly as great as tuberculosis, especially when such after effects as circulatory and nervous disorders are considered. And, lastly,

we are under a moral obligation, for we brought the negro to this country and are responsible for his present social position and many of his consequent troubles.

The question of prevention and treatment is a serious one, one that should receive much more attention than it now does. The various forms of prophylaxis must now be considered one by one.

1. For one I have very grave doubts whether the sex hygiene and social uplift lectures will have the slightest effect upon either negro adults or children; they seem to me to be practically unreachable by it, for they are unmoral rather than immoral, and sexual gratification does not appeal to them as anything wrong.

2. Nor will fear suffice to promote chastity. When one considers how many medical students and even physicians acquire venereal disease he can readily see that fear will have very little influence upon as temperamental a race as the colored. For years it has been the practice in my clinic to try to frighten the syphilitic patients into regular attendance, but this has never been successful.

3. Personal hygiene, or proper local treatment after intercourse, has worked wonders in the navy, and I am an advocate of this method in the adult negro, but certainly not in the child, for the adoption of such a plan would stimulate negro children to acts of the grossest immorality, inasmuch as official sanction would be placed upon such acts.

4. Circumcision of all male babies would be useful in two ways: first, it would make the child less liable to infection, it being a well-known fact that circumcision is a preventive of syphilitic infection; and, second, it would remove a possible source of irritation around the penis, an irritation that might easily lead to the sexual act.

5. A curfew law, enforced as it is in some New England cities, might do a great deal of good.

6. Employment throughout the day time, whether at work or at play, is always a deterrent: for this reason we should encourage playgrounds.

7. Better housing conditions, with less crowding of the quarters, would be helpful in several ways—home would be more attractive and there would be less liability to seek amusement on the street, and also there would be fewer possible sources of infection in the house itself.

8. The most important factor to prevent the spread of venereal disease would be the registration of all cases. This system has recently been introduced into New York, and Gottheil, in a strong editorial against it, brings forth the following points: "It is an unwarranted restriction of personal liberty, an official infringement of professional relationship of the most confidential nature, a possible source of lawsuit and blackmail, an economic injury

of the severest kind to the long suffering physician, as well as tending to promote deceit, quackery and self-medication by nostrums to the injury of the patient." These objections seem to me to be founded upon false premises; first, the premise that the individual is more important than society; second, that the physician's pocketbook is more important than society: in other words, most of these objections seem to indicate nothing but professional selfishness.

But whether or not we report all cases of venereal disease we should certainly report all cases of these maladies occurring in children.

9. Segregation, forcible if need be, should be a corollary of registration. When a man, woman or child is dangerous to the community, if he will not voluntarily cease to be a danger, he should be made to. It is just as proper to prevent a man or a woman from spreading syphilis as it is to force a railroad to abolish a dangerous grade crossing, and no more a restriction of personal liberties. I do not advocate the segregation of all cases, that would be an economic hardship both to the family of the afflicted as well as to the state; but I do advocate the segregation of the criminally careless. And again, children could be segregated without economic loss.

10. All patients should be promptly and efficiently treated so as to render the infectious period as short as possible. The old method of feeding patients on protiodide pills is a thing of the past; efficient treatment means the combination of salvarsan and intramuscular injections of mercury, together with the intelligent use of the Wassermann reaction.

11. The patient, and wherever possible the family as well, should be instructed that venereal disease is contagious, and the hygiene should be explained.

12. Each hospital should have a corps of visiting nurses attached: it is just as important to have the patients looked after on the outside of the hospital as on the inside, and this is particularly true of the contagious diseases, whether they be venereal or not, for the nurse can not only look after the comfort of the patient, but can show how to prevent further infection. To some extent this is now done by the Visiting Nurses' Association, but should be more fully done. In the case of the venereal disorders this is especially important.

13. There should be plenty of available clinics, with hours to suit the patients. It is a serious matter for a poor man to give up half a day's work and then pay carfare in order to secure treatment. Physicians' attendance at clinics should be more regular.

14. There should be better coöperation between the indoor and outdoor services of the hospital. A patient who has been

treated in the hospital for syphilis or one of its various manifestations, upon leaving is rarely referred to a clinic where efficient syphilitic treatment can be continued; in fact only occasianally does he have any further treatment after leaving the hospital. At the Freedmen's Hospital one man is responsible for the treatment of all syphilitic cases in the wards, and as he also has charge of the syphilitic clinic all cases can be referred to the proper place for treatment. In practice this scheme works admirably.

15. Certainly in the negro schools and perhaps in the white schools the sexes should be absolutely separated, from the first grade up through the high school. Also it is very dangerous to have teachers only a little older than their pupils of the opposite sex.

I am aware that no one of these, or even all of these reforms, even if actively enforced, will prevent the spread of syphilis; only a change in human nature will do that; but I do believe that the adoption of these suggestions will cause a diminution in the frequency of the trouble. The experiment could readily be made upon the school children. It could do no harm and might work great good.

I am indebted to Drs. French and Ecker for many helpful suggestions.

Dr. Kober said that as a pioneer in the prevention of venereal diseases, having studied the subject as long ago as 1892, he heartily endorsed the conclusions reached by the essayist. One of the appalling features of the situation is forcibly brought out in the paper: that the disease is not confined to adults, but that it is becoming also a disease of childhood. As chairman of the Social Betterment Committee of the President's Homes Commission, he had sought to ascertain the degree of prevalence of venereal diseases in this city; the records of the hospitals and dispensaries for a number of years were studied by Dr. Macatee, the Assistant Secretary of the Homes Commission, and it was found that venereal diseases constituted 10.08 per cent. of the diseases treated in these institutions at public cost. It was found moreover that at the Children's Hospital venereal diseases constituted about 3 per cent. of the cases treated. Dr. Kober believed that Dr. Pollock's work in Baltimore has been of the utmost importance and serves to show from statistical evidence that Baltimore has the same dangerous problem that confronts Washington; and it follows that the conditions that obtain in these two cities must obtain everywhere else. Dr. Holden, of Vermont, has reported epidemics of venereal disease among children in that State. When we consider the vast economic losses connected with these evils, as well as the losses of biologic capital, he could but regret

the inactivity of the Medical Society in this matter while the propaganda of reform has passed into lay hands.

Dr. Woodward felt that the Society is indebted to Dr. Hazen for bringing the facts set forth in his paper to the attention of the Society ; the definite facts adduced serve to demonstrate the importance of reporting these diseases to the Health Department, especially when they are found among public school children, or for that matter among any children whatsoever. It is necessary that definite figures determining the extent of this evil should be available in order to stimulate public attention to it as a prerequisite of obtaining methods of attack and reform. Dr. Woodward suggested that the Medical Society should take the leading steps in this direction, though he realized the hampering effects of professional secrecy. It seems certain that the segregation of sexes in the schools needs further consideration. So far as the colored population is concerned the housing conditions in this city are most blameworthy, and scant blame can attach to colored children for the prevalence of sexual irregularities among them when the conditions under which they grow up are properly appreciated.

Dr. Edwin L. Morgan was in favor of the education of children in sex hygiene in the public schools. He believed that the attitude of the profession in this matter has been hypocritical, and that physicians have been cloaking themselves with professional secrecy.

Dr. P. B. Johnson said that his experience while inquiring into the personal histories of inmates of the Washington Asylum Hospital had been very convincing that sexual immorality among children is alarmingly widespread in this city. He believed that education in sex hygiene should be undertaken in spite of the occasional mistakes of judgment that are necessarily to be expected.

Dr. W. J. French said that Dr. Hazen had merely turned over a page that is familiar to us all. There is no doubt that venereal diseases ought to be reportable and subjected to the same control now applied to other communicable diseases. It is not merely a moral matter, the social and hygienic factors in the etiology of these diseases need vigorous attack.

Dr. Macatee called attention to Dr. Hazen's remarks upon the absence of any inquiry as to the economic cost of venereal disease and pointed out that in 1909 he, Dr. Macatee, had read before the Medical and Surgical Society of the District of Columbia a paper entitled "What Vice Costs the Community," this paper being based upon an extension of the statistical inquiry into the prevalence of venereal diseases among patients treated in hospitals and dispensaries, to which Dr. Kober called attention in this discussion. This study sought to estimate what proportion of public appropriations for medical charities was expended for

the care of vice diseases ; after showing that it was impossible to include all the appropriations because of factors of error, this paper said : " However, a list of the appropriations (for Medical Charities alone) for five years, 1903–1907, is as follows : 1903, $403,000 ; 1904, $155,500 ; 1905, $147,918.62 ; 1906, $234,750 ; 1907, $312,-479.67 ; total, $1,253,648.29.

" As 13.93 per cent. represents the proportion of these vice diseases to all others in 14 different hospital centers for 90 hospital years, it seems fair to say that the Government has paid 13.93 per cent. of $1,253,648.29 for the care and treatment of diseased conditions arising from the illicit pleasures of some of its citizens ; the appropriation for the relief of the 'gloom of the morning after' for five years has been $174,633.35, or a yearly expenditure of $34,926.67."

Dr. Prentiss Willson said that all seem agreed as to importance of education of children in sex hygiene, but we are apt to forget the difficulties that are in the way. He had been astonished at the tremendous opposition which attends any attempt to discuss these matters publicly, as for example the hostility to the recent production of " Damaged Goods " in this city.

Dr. W. P. Carr said that inactivity of the Medical Society in attempting the amelioration of the situation as regards venereal diseases should not be attributed either to hypocrisy or to selfishness ; the explanation can be found in the feeling of professional helplessness in controlling the situation, and in the further fact that the majority of physicians do not realize the extent to which these evils permeate society.

Dr. E. L. Morgan said that jails and penitentiaries have never been abolished despite the hopelessness of abolishing crime ; a do-nothing policy is poor logic.

Dr. P. B. Johnson said that public sentiment has greatly changed as to these matters. Ten years ago it was the current opinion that physicians had no function as moral teachers ; but now it is regarded as the physician's duty to act as such.

Dr. G. Wythe Cook expressed the opinion that education and civil control will not relieve the situation ; the only real prophylactic is moral regeneration.

Dr. Hazen expressed his appreciation of the free discussion of the paper. He agreed that moral regeneration is the remedy *par excellence*, but much may be accomplished by limitation of opportunity for immorality, and by efficient treatment of venereal disease whenever encountered. There is great need of improved methods and equipment in public clinics, so that the treatment may be thoroughgoing ; moreover, there should be some means to ensure the return of patients for treatment ; children will not return under present conditions because of the discomfort attending treatment.

HOSPITAL MILK.

Report of the proceedings of the monthly meeting of the Association for the Prevention of Tuberculosis of the District of Columbia, Thursday evening, May 1, 1913.

Those present were General George M. Sternberg, presiding, Mr. Emile Berliner, Col. John Van R. Hoff, Dr. George M. Kober, Dr. D. Olin Leech, Dr. G. Lloyd Magruder, Dr. Jesse H. Ramsburgh, Dr. E. C. Schroeder, Rabbi Louis Stern, Miss Isabel L. Strong, Rev. D. E. Wiseman, Dr. William C. Woodward, and Mr. Walter S. Ufford, of the Board of Directors; Dr. W. E. Cotton, of the Experiment Station, Bureau of Animal Industry, Department of Agriculture; Dr. W. A. Evans, former health officer of Chicago; Dr. Joseph Goldberger, Hygienic Laboratory, Public Health Service; Mr. William G. Johnson, Bureau of Animal Industry; Assistant Surgeon General J. W. Kerr, Public Health Service; Mrs. J. Nota McGill, of the Woman's Department, National Civic Federation; Miss Martinas, of the Instructive Visiting Nurses Society; Mr. L. A. Rogers, of the Research Laboratories of the Bureau of Animal Industry; Dr. J. O. Skinner, Superintendent of Columbia Hospital for Women; and Mr. Louis F. Zinkham, Superintendent of the Washington Asylum Hospital.

The discussion upon the general topic of the evening, "Hospital Milk," was opened by **Mr. Berliner** with the following paper:

HOSPITAL MILK.

Ever since the Sanitarians of the National Government began to have their attention turned systematically to the problems of the milk supply, those students of milk dangers who had long suspected raw milk and cream to be most serious factors in the production of diseases had their suspicions more than verified.

The Washington Milk Conference of 1907 had adopted the Melvin Standards which divided milk into three classes. The first was "certified" milk which averaged not more than 10,000 bacteria per c. c. The second was "inspected" milk averaging not more than 100,000 bacteria per c. c., and the third, all other milk of indiscriminate quality which should be pasteurized in order to render it safe as a food for the people. Of these grades the milk of classes 1 and 2 was to be obtained from tuberculin-tested cows or rather from stables housing no untested animal.

Soon after the Conference had finished its labors, the Hygienic Laboratory of the U. S. Public Health and Marine Hospital Service, at the request of President Roosevelt, and with the co-operation of Sanitarians from the Department of Agriculture and the Health Officer of the District of Columbia, undertook that noteworthy series of investigations and compilations on the sub-

ject "Milk and its Relation to the Public Health," which in 1908 appeared as Bulletin 41, and which in a revised edition was later re-published as Bulletin 56.

Among the many important studies which were undertaken, the Director of the Hygienic Laboratory, now Professor Rosenau of Harvard University, collected samples of milk from hospitals of this city for bacterial analysis and found the following conditions:

Accepting the limit of safety for raw milk as adopted by the Washington Milk Conference to be a maximum of 100,000 bacteria per c. c. he noted these counts:

Children's Hospital	2,000,000	
Orphan Asylum	2,800,000	
Garfield Hospital	10,000,000	bacteria
Sibley Hospital	10,000,000	per c. c.
Columbia Hospital	15,000,000	
Georgetown Hospital	50,000,000	
Providence Hospital	111,000,000	

In other words, the best of these, the Children's Hospital, dispensed to babies raw milk which contained 20 times more bacteria than the limit of safety adopted by the Washington Milk Conference and 200 times more than was contained in the lowest grade of certified milk, the kind which the most noted Pediatricians of the day said was the only kind of raw milk fit to give to babies.

Some of the more progressive physicians connected with Washington hospitals, when their attention was called to these deplorable revelations, bestirred themselves sufficiently to ask for a more reliable milk supply for their patients. They were unwilling, however, to insist that the milk should be pasteurized because many of them were still under the erroneous and fatalistic impression, created by a conference of Pediatricians twenty-five years ago, claiming that when milk was pasteurized it produced scurvy and rickets in children fed on it.

They ignored the fact that whole nations in Europe were successfully raised on even boiled milk and they took no notice of the many proofs furnished later by a noted philanthropist to the effect that mortality among children dropped astonishingly when pasteurized milk was substituted for raw milk in feeding them.

Several professional and private Sanitarians of this city endeavored by repeated attempts during the next few years to impress these proofs on hospital authorities, on physicians, on the Health Office, and on the Commissioners of the District of Columbia, vainly pleading for a safer milk supply in order to save the lives of children and other hospital patients.

Some hospital physicians, even though convinced that the argu-

ments for pasteurized milk were sound, said that the dietary department of their hospital was under the control of a matron who brooked no interference. Others claimed that their hospital could not afford the extra few cents per gallon for the pasteurized product. Finally, and only a few months ago, the excuse was advanced on this floor, that since pasteurization was still conducted without official supervision, milk so treated was unreliable and that we might as well give to children indiscriminate raw milk as indiscriminately pasteurized milk, or words to that effect. A few practitioners refused point blank to even consider pasteurized milk at all, and strongly resented the proposition that their opinion be attacked or that their practice of giving raw milk to children be interfered with.

In the meantime attention was called to several remarkable studies which had been published in Medical Journals by Dr. David L. Edsall, of Philadelphia, which dealt specifically with milk used in hospitals. Without giving the details of these exhaustive experiments, I will cite a few of the conclusions arrived at by this investigator. He said:

"In other words, I mean cases in which the milk does not itself produce grave and evident infection, but in which it succeeds in making worse a disease that is already more or less bad; and in which the symptoms are likely to be attributed to the disease rather than to the food. That this occurs with some frequency has been generally believed by those interested in milk infections."

"Dr. D. J. Milton Miller, who had served the preceding four months in the same wards, remarked upon the recent persistence and frequency of diarrhea in the typhoid cases and said that he believed the milk to be responsible for it; a suggestion that met the same thought in my own mind.

"On the ground of these results, I gave an order that all patients in the ward receiving milk should have only pasteurized milk, the pasteurizing to be done as soon as the milk was delivered at the ward. The results were very striking.

"Put in the form of percentage, from April 15th to August 1st, of ninety-two patients, seventy-seven per cent. required frequent enemas and only four and three-tenths per cent. developed diarrhea in the house: From February 1st to April 1st, of forty-six patients, only 19.5 per cent. required frequent enemas, while sixty-three per cent. either developed troublesome diarrhea in the house or persisted in having diarrhea for a long time after admission. The only noteworthy difference in the management of these cases during the two periods consisted in the fact that from April 15th to August 1st the milk was pasteurized, while during February and March it was not.

"Dr. Despard, who was my resident from May 1st to August 1st, who had been daily in the wards in the preceding months,

remarked at the end of the service that the character of the group of cases had been entirely changed by pasteurizing the milk and that he believed that this measure had probably saved as many as five lives. I consider this a fair statement.

"I am quite prepared to believe that milk infection may increase the destructiveness of typhoid ulcers and thus increase the frequency of both hemorrhage and perforation.

"That such milk infection, even if mild, is a serious matter when a grave disease is already present, needs no demonstration.

"It is also evident that patients are not properly treated, unless this source of danger is put aside.

"The facts that I have given suffice to show that in typhoid fever—and if in typhoid fever, in other diseases also—infected milk may greatly endanger the lives of those to whom it is given, and may actually take life without even producing any clearly recognized specific disease."

That conditions did not much change during the next few years may be gathered from a paper read before the Laboratory Section of the American Public Health Association at Havana, Cuba, December, 1911, by Dr. J. J. Kinyoun of the Health Department of this city relating to bacterial studies made by him and Dr. L. V. Dieter during that autumn; Dr. Kinyoun said as follows:

"The milk supplied to the several hospitals and institutions in Washington is both raw and pasteurized. The bulk of it is raw; only one or two hospitals are supplied with pasteurized. The bacterial content of this milk is about the same as market milk—the lunch room milk being excepted—91 samples obtained from these institutions have been examined, the average count per c. c. for raw milk was 6,252,000 and 48 of these contained both colon bacilli and streptococci. The pasteurized milk was not what it should be, the average count per c. c. was 754,000 and 33 per cent. of these contained both colon bacilli and streptococci.

"Some of the pasteurized milk was good, and contained neither colon bacilli nor streptococci, and the whole count was low.

"The bulk of the milk that is served to the hospitals and institutions is not what it should be and is not in our opinion a proper food for the sick or for children. Yet notwithstanding its poor quality, it is no better or no worse than the milk that is consumed by the sick of the city outside of the hospitals or by the thousands of children.

"Only three hospitals have requested the Health Department to make an examination of the milk supplied them. All the others either treated the matter with indifference or even with resentment. Further comment is unnecessary."

Dr. Magruder will give you some figures showing the high mortalities in Washington Hospitals, but I would like to tell you

of a melancholy occurrence bearing on the subject before us and which came to my knowledge at first hand.

A young woman was to have her first child, and her husband, desiring that the infant be born under the best possible auspices, placed her in a private room at one of Washington's biggest hospitals. The child was born healthy and normal, weighing about seven pounds. After a few weeks it contracted a catarrhal cold and could not draw the breast. The doctors tried to pump the milk in order to give it to the child by the spoon, but found it difficult to do so. They finally advised the mother that for a few days at least the child be given cow's milk and this was done. Within 24 hours the child took sick, it died on the third day, and the doctors said to the distracted mother that it had succumbed to some kind of poison. As this hospital was known to have dispensed milk having over 37,000,000 bacteria per c. c., within the past six weeks, the doctor's theory was probably correct. The lesson which prospective parents of this city may draw from this incident is rather obvious.

And then we must not forget that cream, volume for volume, is very much richer in bacteria than the milk from which it is derived, and that the amount of cream usually taken with a dish of breakfast food contains as many, and probably more, bacteria than a glass of milk. Therefore, if we give a patient pasteurized milk, but allow him to have indiscriminate raw cream with his breakfast food, or ice cream made of indiscriminate raw cream, we shall still expose him to raw milk dangers.

I also call attention to the researches of our own Dr. Schroeder showing that cows appearing to be entirely healthy, slick and robust, may discharge large quantities of tubercle bacilli and infect the milk from the stable in which they are housed with other animals. He also made the noteworthy discovery that apparently healthy cows may, in some instances continuously, and in others intermittently, eliminate the bacillus of contagious abortion with their milk. This bacillus produces serious glandular troubles in test animals, but there is no test at the present time that can be made in less than from five to six weeks which will prove that milk is so infected. Pasteurization destroys this bacillus.

Mr. Chairman, it is not necessary before this well-informed meeting to reiterate the history and the pathology of the many serious epidemics, from typhoid to septic sore throat, which in the past were caused by raw milk, even by that classed as "certified." But as this is an Association for the prevention of tuberculosis, let it be emphasized that at the last International Congress of Hygiene competent authorities made the statement that in different groups of children who had suffered from tuberculous affections, from 5 to over 50 per cent. of such affections were proven to have been of bovine origin.

We have numberless proofs as to the efficacy of pasteurization for rendering even indiscriminate raw milk, the Class 3 of the Melvin Standards, entirely safe as a food for children and hospital patients. And recently it was found by Schroeder through experiments on several hundred test animals that even indiscriminately pasteurized milk obtained from different dairies, meaning such as was not pasteurized under the most approved processes, nor under official supervision, was yet about five times safer than indiscriminate raw milk, likewise from different dairies, such as is given to our hospital patients.

Let me also state that the mortality rate, for instance, in typhoid fever, is 10% of all cases in this country. In Germany it is only from 4 to 5%. To explain this we have our choice either to impugn the ability of our physicians to cope with the disease, or seeking it in the fact that milk given to German patients is always boiled and milk given to American patients is mostly raw and of questionable quality.

Mr. Chairman, it was this city whence started the world-wide movement for a safer milk supply; it is to Washington where turn the eyes of the Sanitarians of the country for advice and information; it is here, where are printed those great editions of books and pamphlets issued by the National Government dealing with hygienic reforms, and yet right under our very eyes the lives of children and hospital patients are daily placed in jeopardy by questionable raw milk, and nobody raises a finger to prevent it.

Hence I claim that this Association would be remiss in its duty and forgetful of the cause for which it was founded, were it to fail protesting against these inexcusable milk conditions that persist in the hospitals of the National Capital.

Dr. Magruder said: It is very proper that the quality of the milk used in Hospitals, Homes and Infant Asylums should be considered by this Association, since one of its aims is the prevention of tuberculosis. The constantly accumulating authority, that the bovine tubercle bacillus does produce tuberculosis in human beings, warrants the keeping of this source of the disease constantly before the public and the urging of the proper methods of removing the danger of infected milk. Hence it is very important that babies and children should be supplied with safe milk.

Recent reports of the Washington Home for Foundlings, the Children's Hospital, the Straus Milk Stations, and the Oyster Milk Stations seem to furnish valuable information upon the relative value of raw and pasteurized milk for infant feeding.

The Home for Foundlings commenced the use of properly pasteurized milk on January 31, 1910. An improved condition

of the babies was immediately noticed. The deaths for this and the subsequent years were as follows:

Year.	Total babies.	Deaths.
1910	70	10 (3 premature births).
1911	77	4 (1 premature birth).
1912	93	11 (7 due to infantile atrophy).

In the year 1909, when raw milk was used, there were 9 deaths out of 51 babies.

The reports of the Children's Hospital show:

Year.	Total babies.	Deaths.
1910	103	34
1911	175	60
1912	237	60

Here raw milk was used during these years. It must be remembered that the babies treated at this hospital were sick when admitted. But even then the results were not as favorable as when pasteurized milk was used elsewhere for sick babies. For the past two years the requirement has been in force that the milk supplied to the hospital should come from tuberculin tested cows.*

The results at the Straus Laboratory, where only pasteurized milk was used, were 51 deaths among 506 babies. Thirty-one of these deaths occurred among 188 infants who were attending at the stations less than thirty days. Of the 318 babies who used the milk a month or more, there were only 20 deaths, about 6 per cent. Dr. Louise Tayler-Jones, in closing her report of the Straus Milk Depots, says: "The supply of a good, properly modified and properly pasteurized milk, medical supervision, and nurse's care have worked a success which is convincing to those who have seen the babies." Many of these babies were seriously ill when brought to the stations.

The report recently issued of the Oyster Milk Stations for eighteen months showed that 795 babies visited the stations one or more times. "They came to the stations in almost every conceivable degree of health, varying from those who were apparently in excellent health to those who were critically ill." The number of deaths was 44. Of these, 26 were due to intestinal diseases and malnutrition. Thirty-five cases were referred to Children's, Garfield, and Freedmen's Hospitals. The deaths were respectively 6, 3 and 5. It was noticed that all children did better on pasteurized milk than on raw milk.

* The physicians now on duty since April 1st have ordered the pasteurization at the hospital of all milk used for babies. Today, June 20th, all milk used is pasteurized at the hospital. Georgetown University Hospital has also ordered the pasteurization at the hospital of all milk used in both the maternity and hospital departments.

Gen. George M. Sternberg, reporting for Garfield Hospital, as President of the Hospital Board, stated that he had hoped the superintendent of the hospital would be able to be present. He had learned from Miss Nevins that the hospital was taking milk recommended by Mr. Oyster as his best, coming from his own dairy of tuberculin-tested cows. This milk, however, is not pasteurized.

Dr. W. A. Evans, former Health Officer of Chicago, was then invited to speak upon the special topic. He said that "The universal experience of health departments is that hospitals are careless about their milk supply. As a general proposition hospitals buy their milk in competitive bidding. I have known of a good many analyses of hospital milk made by health departments in various cities and they quite generally run high. Chicago hospitals getting milk buy at less than average milk price. Some of their samples are distinctly lower in quality than the samples taken off the street." Dr. Evans quoted recent tests made at the Naval Academy at Annapolis, showing that with the use of raw milk in April, 1911, there were 120 students suffering from gastro-intestinal disorders. With the installation of the Academy's own dairy in April, 1912, there were but 6 students with gastro-intestinal trouble, while in April, 1913, there were but 20. All were astonished at the results. These boys are husky, double-jointed, athletic students. The drop from 120 in 1911 to a maximum of 20 is significant. If raw milk will produce disease in a student body it will surely do so in patients in hospitals and with babies. Attention has been called to the fact that the country looks to Washington for guidance. People generally look to hospitals for leadership.

Dr. William C. Woodward said that the impression is abroad that some members of the Association are unalterably opposed to the use of raw milk. He said that he used pasteurized milk in his own family and would use no other, yet he felt the problem was not as simple as might appear. He cited the fact that cottage cheese and buttermilk are looked upon as wholesome diet, notwithstanding their high bacterial counts. He expressed the opinion that we have not sufficient data which would justify Congress in forbidding the use of all raw milk, under all conditions whatsoever. As a general rule, the selection of milk in our hospitals is entrusted to the superintendent or matron. Unless the superintendent is a physician it should be selected and controlled by the medical staff, either directly or through rules laid down by it for the guidance of the superintendent or matron. Hospitals ought to get the best milk obtainable and it should be cared for in the institution in the best possible way. The subject of pasteurization in the hospitals should be controlled by the medical staff.

Dr. E. C. Schroeder pointed out that only recently the avail-

able data on the relative value of raw and boiled milk had been analyzed in England by Dr. Janet E. Layne-Claypon, and that her work on this subject had been published by the Local Government Board on Public Health and Medical Subjects of London, England. On the basis of the available experimental and clinical data, and her own studies, Dr. Layne-Claypon draws the conclusion, "That, when an animal is fed upon the milk of another species, the milk from which has been found suitable for this purpose, such small differences as have been found in the nutritive values of raw and boiled milk have been in favor of boiled milk."

Barlow's disease and rickets are shown not to be due to the use of boiled milk, but probably to an undue amount of farinaceous food too early in life.

In reply to a statement characterizing the matter under consideration as being very complex, Dr. Schroeder said that the available facts had removed the complexities, and that we were really dealing with a simple question; that we have reasons to believe that pasteurized, or even boiled, milk is a better article of food than raw milk when no other questions than digestibility and nutritive value are taken into consideration, and that we know that the numerous epidemics of diseases due to the use of raw milk can be stopped by efficient pasteurization. As to the enormous number of bacteria in milk products like cottage cheese, buttermilk, etc., it should be borne in mind that they are not disease germs, but harmless and supposedly beneficent bacteria, and that it is a mistake to advocate the use of pasteurization to control bacterial counts. Stale and dirty milk cannot be made good milk by heating it, and pasteurization should be relied on only to counteract those pathogenic organisms which the best endeavors, under existing conditions, cannot unfailingly exclude from milk.

Dr. Cotton said, It is a well known fact that the resistance that the human body offers against infection with most pathogenic organisms is lowered when it is suffering from any disease or any other condition that reduces its vitality. The vital force of the body is not unlimited; force spent in fighting one disease is not left available to overcome new invaders. It follows then, that of all the times that people should be especially protected from disease germs, it is that time when they are lying sick, when all the available force they can command is needed to fight the disease from which they are suffering, for if a new invader enters with their food at this critical time the chances are that it will either become implanted or else force, which the patient can illy spare, will be diverted from the attack on the original disease to that on the new invader.

Now as milk enters largely into the diet of many hospital

patients, and as it has been proved that it often contains disease germs, it does not seem right to subject hospital patients to the danger of acquiring some serious infectious disease while they are being treated for another possibly milder, and non-infectious one, if there is any reasonable way to prevent it. Harm is done not only to the patients, but to the public as well, for we must remember, in this connection, that each new case of an infectious disease means a new focus from which the infection may spread. One does not like to think of a hospital as being a dispenser of infectious diseases, but such an idea is conceivable, if the hospital supplies raw milk to its patients.

Pasteurization will make milk safe so far as disease germs are concerned, there is no question about it, and, unless it can be shown that it has disadvantages that outweigh its very great advantages, it seems that in justice, not only to the patient but to the public as well, hospitals should see to it that all milk should be made safe by this simple, efficient process before it is offered to their patients.

Dr. J. W. Kerr expressed himself as a firm believer in pasteurization. What is good for private families is certainly good for hospitals.

Mr. L. A. Rogers said: Physicians have two principal objections to the use of pasteurized milk: first, that pasteurization changes the chemical composition so that the milk is less digestible; and second, that the lactic-acid bacteria are destroyed and other more objectionable bacteria develop and make the milk dangerous as a food for infants without changing the appearance or palatability of the milk. The work which the Dairy Division has been carrying on for a number of years has shown that so far as the most approved methods of pasteurization are concerned these objections are not well founded. When milk is pasteurized for 30 minutes at a temperature of 145° F. the change in the chemical composition is so slight that it cannot be detected by chemical analysis. Under these conditions a considerable proportion of the lactic-acid bacteria survive and the milk sours in a normal manner.

Dr. George M. Kober said it was gratifying to see such a unanimity of opinion on the dangers of raw milk and it must be a source of special satisfaction to Mr. Berliner to be able to quote authorities as eminent as Doctors Edsall, Rosenau and others in favor of his contention. Dr. Kober regarded the opinion of Prof. Edsall as of special value on account of his high scientific attainments both as a Laboratory Worker and Clinician, a man who has been sought by three of the leading medical schools in this country, the University of Pennsylvania, Washington University of St. Louis, and Harvard. Personally Dr. Kober has insisted for several years that in our present state of

knowledge nothing short of efficient pasteurization will confer immunity against so-called milk-borne diseases. He felt that hospitals had been extremely negligent in selecting their milk supply. He stated that acting upon a communication from Mr. Berliner, the Board of Charities had requested the Health Officer to prescribe specifications under which bids for milk for the public hospitals should be received. Under these specifications, the hospitals wholly owned and controlled by the District Government are now receiving properly pasteurized milk.

Dr. Jesse H. Ramsburgh stated that he had found a number of patients unable to take raw milk, whereas boiled milk agreed with these same patients. He asked if authority could not be given the Health Officer to condemn the practice of furnishing raw milk to hospital patients.

Rabbi Louis Stern said that while bringing in the subject of religion into a scientific discussion was usually out of place, he would remind the meeting of the Divine command "Thou Shalt Not Kill." If hospitals are established for the purpose of preserving life then, in his judgment, they should certainly be asked to use only pasteurized milk in order to protect life.

Mr. Berliner, in closing, said the burden of proof is today on those who oppose pasteurization of milk, and not on those who advocate it and who formerly had to defend themselves against the assertion maintained by physicians that heating milk affected the digestibility or its nutritive value.

The following resolutions, presented by Mr. Emile Berliner, were adopted without a dissenting vote:

Whereas, it has for a number of years been well-known that much tuberculosis and other diseases in children are caused by raw milk and cream and that such milk and cream are also dangerous to hospital patients and to all those whose resistance to disease is low or impaired, and

Whereas, this Association has been informed that at several hospitals in this city little attention is paid to this fact, and that the milk and cream fed to many children and patients at these institutions are of the unreliable and dangerous raw kind,

Resolved, that this Association expresses a strong protest against the continued use, at hospitals in this city, of raw milk and raw cream and that such milk and cream should by all means be properly pasteurized, cooled and kept cold until used, and

Resolved further, that a copy of these resolutions be sent to the Commissioners of the District of Columbia, to the Board of Charities and to the Committees on the District of Columbia of both Houses of Congress, and that the President of this Association request them to exert their influence and power towards remedying this condition at the hospitals in the District of Columbia.

PROCEEDINGS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Wednesday, April 2, 1913.—The President, Dr. W. P. Carr, presided; about 80 members present.

Dr. S. S. Adams was appointed Vice President of the Washington Academy of Sciences to represent the Medical Society; President Carr not being a member of the Academy.

The Treasurer reported for March, receipts $90, disbursements $52.75.

An appropriation of $193.42 was made to defray the cost of publication of the ANNALS for March, and the printing of the Constitution and By-Laws.

The Executive Committee, through Dr. Balloch, made report.

The resignation of Dr. O. M. Muncaster to date December 31, 1912, was accepted.

The Committee on Traffic Regulations made the following report which was accepted:

Whereas, The present regulation limiting the speed of automobiles in the District of Columbia to twelve miles an hour is far within those required for safety, and

Whereas, The present speed limit is totally inadequate for physicians to properly attend to the duties required of them, and

Whereas, In the cities of New York, Philadelphia, Baltimore, Richmond, Pittsburgh, Detroit, Chicago and others where traffic is far more congested than in Washington, the regulations are much more liberal in that they allow either an unlimited speed or a speed limit of twenty-four miles an hour, or special permits to physicians under supervision of the police;

Therefore be it resolved, That it is the sense of the Medical Society of the District of Columbia that the present automobile speed regulations in force in the District of Columbia as applied to physicians should be amended so as to allow to physicians privileges at least as liberal as those which obtain in the cities mentioned, either by allowing a speed limit of twenty-four miles an hour except in commercial districts during business hours, or by special permit under the supervision of the Police Department.

(Signed) F. SCOTT AVERY,
W. M. BARTON,
G. W. WOOD,
Committee.

The following were appointed by the President a committtee on Red Cross Medical Work, in accordance with the report of the Executive Committee March 12 (see ANNALS for May, 1913, page 188): Drs. Reichelderfer, Mackall, Balloch, and *ex-officio* Drs. Carr and Macatee.

Dr. T. A. Williams reported a case of Tabes in which there was unusual loss of sensibility to pressure-pain. See page 221.

Dr. A. L. Stavely read the paper of the evening: Cirrhosis of stomach. Discussed by Drs. Jack, Carr, A. F. A. King, Nichols, Reichelderfer and Stavely.

Wednesday, April 9.—The President, Dr. Carr, presided; about 80 members present.

A letter from the National Academy of Sciences was read inviting the members of the Medical Society to attend its meetings.

A letter from the Medical Board of Providence Hospital in regard to a notice on the program card, was laid on the table; and the letter of President Carr in reply thereto was approved by the Society.

An appropriation was made of $2.25 for printing.

Dr. D. S. Lamb presented the following specimens: *Stomach* which suggested *cirrhosis* but on microscopic examination was found to be *carcinomatous*. *Enlarged prostate* of dog. *Carcinoma* of *kidney*, *pancreas* and *mesentery*. Discussed by Drs. Carr and Lamb.

Dr. Bovèe addressed the Society on the use of Iodine as a disinfectant in surgical and gynecological work. Discussed by Drs. Stavely, Randolph, Abbe, Barton, Willson, Hagner and Bovèe.

April 16.—The President, Dr. Carr, presided; about 95 members present.

An appropriation of $8.75 was made to defray the expenses of the Committee on Public Instruction.

Dr. F. B. Bishop read a paper on High frequency currents. Discussed by Drs. Roy, T. A. Williams, Butler, Fremont-Smith and Bishop. See page 201.

April 23.—The President, Dr. Carr, presided; about 75 members present.

A letter from the family of the late Dr. J. S. Billings, appreciative of the action of the Society in memory of his death, was read.

Dr. Nichols, from the Committee on Public Instruction, reported that the committee had decided not to publish anything until Fall. Adopted.

Dr. E. P. Magruder read a paper on Infantile paralysis affecting the lower extremities; its surgical treatment and possibilities of cure. Discussed by Drs. Erving and Magruder.

Dr. H. H. Hazen read a paper on Syphilis in the public schools. Discussed by Drs. Kober, Woodward, E. L. Morgan, P. B. Johnson, W. J. French, Macatee, Willson, Carr, G. W. Cook and Hazen. See page 223.

April 30.—The President, Dr. Carr, presided; about 95 members present.

The Society ordered that the meeting of May 7th should be omitted and the business of that meeting should be considered on May 14th.

The Executive Committee reported, with recommendation, a resolution of Dr. Nichols instructing the delegate from the Society to the A. M. A. meeting, to propose a substitute for By-law, Section 4, Chapter I, of the A. M. A. Adopted by the Society.

The Society ordered that any member desiring to attend the International Medical Congress to be held in London, should be given a certificate of membership in the Society.

Dr. C. L. G. Anderson read a paper entitled Alvar Nuñez Cabeza de Vaca, the first European faith healer in America, 1528–1536. Discussed by Drs. E. L. Morgan, J. R. Swanton, of the Bureau of American Ethnology, and T. A. Williams. See page 208.

Dr. Vaughan read a paper on San Martin y Satrustegui's operation for gangrene. Preliminary report of a case. Discussed by Drs. E. P. Magruder, Jack and Webb. See page 216.

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Editorial.

History of the Medical Socety of the District of Columbia.—Price $1.00, with 25 cents added if delivered in this city or sent by mail. Address Dr. C. W. Franzoni, 605 I Street, N. W. The books are in the custody of Dr. D. S. Lamb, at the Army Medical Museum.

THE OTHER MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

MEDICAL AND SURGICAL SOCIETY of the District of Columbia.—President, H. P. Parker; Vice President, D. P. Hickling; Secretary and Treasurer, L. Eliot; Recording Secretary, L. C. Ecker; Executive Council, A. R. Shands, O. A. M. McKimmie, L. Eliot, E. P. Copeland and L. H. Reichelderfer.

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GALEN SOCIETY of the District of Columbia, 1912–1913; R. Lee Spire, President; Wm. H. Littlepage, Secretary-Treasurer.

1913. *Place of Meeting.*

Oct. 20. David W. Tastet, 2827 11th St.....Election of officers: Miscellaneous business.

MEDICAL HISTORY CLUB of Washington, D. C., 1912–1913. Officers: President, G. Wythe Cook; Vice President, W. W. Wilkinson; Secretary, H. W. Lawson, 1117 Vermont Avenue. Executive Committee: I. S. Stone, F. H. Garrison, B. M. Randolph and the officers. Members: Truman Abbe, Frank Baker, W. C. Borden, G. Wythe Cook, J. A. Foote, F. H. Garrison, Howard Hume, H. W. Lawson, G. Brown Miller, J. D. Morgan, J. B. Nichols, B. M. Randolph, C. W. Richardson, Philip S. Roy, Sterling Ruffin, I. S. Stone, Joseph Wall, W. W. Wilkinson.

GEORGETOWN CLINICAL SOCIETY; twenty active members limited to graduates of the Medical Department of Georgetown University. Meets at the University Club on the second Tuesday of the month. J. Russell Verbrycke, Jr., President; John Foote, Vice President; Ralph LeComte, Secretary-Treasurer.

Medical Society of Georgetown University has a membership of 97 active members and meets on the second Saturday of the month at the Medical School. Officers: Wm. C. Gwynn, President; Geo. Wood, First Vice President; Ralph Hamilton, Recording Secretary; J. Russell Verbrycke, Jr., Corresponding Secretary.

The Hippocrates Society, membership limited to 25, with voluntary retired members after 10 years, meets on the second Thursday of the month. Officers for the year are L. M. Hynson, President; Wm. Earl Clark, Vice President; J. Russell Verbrycke, Jr., Secretary-Treasurer.

Clinical Society of Washington.—Composed of 25 active members besides retired members. Officers: C. M. Hammett, President; T. A. Groover, Vice President; W. E. Clark, Secretary-Treasurer; L. A. Johnson and J. D. Thomas, Censors.

Clinico-Pathological Society.—Active membership limited to 25. Inactive membership: those who have withdrawn from active membership for 15 years. A limited honorary membership of distinguished medical men. Meets on first and third Tuesdays from October to May, inclusive. Officers: W. G. Morgan, President; Sothoron Key and E. E. Morse, Vice Presidents; B. M. Randolph, Secretary and Treasurer.

The Freedmen's Hospital Medical Society meets on the third Tuesday of each month from October to May, inclusive. Its membership is composed of physicians connected with the Staff of the Hospital and the Medical Faculty of Howard Medical School. The present officers are A. M. Curtis, President; S. L. Carson, Vice President; C. A. Allen, Secretary-Treasurer; Committee on Program, E. A. Balloch, S. L. Carson and H. H. Hazen.

Therapeutic Society of the District of Columbia.—Meets at the G. W. School of Pharmacy, 808 I Street, N. W., on the first Saturday in each month. G. W. Latimer, President; A. P. Tibbets, Secretary.

Oct. 4, paper by Adam Kemble and J. J. Kinyoun, The diagnosis and treatment of chronic gonorrhoea, with remarks upon the complement fixation test; discussion led by H. A. Fowler.

Nov. 1, paper by W. M. Barton, Chemo-therapy; discussion led by N. P. Barnes.

The Washington Society of Nervous and Mental Diseases is in its sixth year and, although of limited membership, welcomes those physicians who are interested in neurology, psychiatry and psychopathology. There are no dues, and the members entertain the Society in turn.

SOCIETY OF SOCIAL HYGIENE, Washington, D. C.—President, Surgeon General Stokes, U. S. Navy; Secretary, Lt. Col. J. R. Kean, U. S. Army, Surgeon General's Office. The Society has four committees, namely: Education, Venereal Diseases, Protection of Women and Children, and Psychopathology. Yearly dues, $1.00. Persons desiring to become members should address Col. Kean and state to which committee they wish to be assigned.

THE SECRETARIES of the other Medical Societies of this District are reminded that the ANNALS will publish the schedules of their meetings.

THE WASHINGTON MEDICAL ANNALS. — Back numbers. — Members of the Society who have back numbers of the ANNALS, and do not intend to preserve them, are requested to send them to the Chairman of the Publication Committee. Requests for such numbers are frequently received. Address Dr. D. S. Lamb, Army Medical Museum.

OWEN BILL.—To establish a Department of Health. See *Jour. A. M. A.*, April 26, page 1320.

PRIZES.—Prizes consisting of medals in gold, gold plate, silver and bronze, also honorable mention, will be awarded by the *Societé d'Hygiene de l'Enfance*, Paris, to the best essays on the following subject: "The place that should be occupied by Puericulture and Infant Hygiene in modern education." Essays must be received before January, 1914; may be in French, English, German, Italian or Spanish; not signed, but at the head must be placed some device which is to be reproduced with the author's name and address in an accompanying sealed envelope. The essays become the property of the Society, will not be returned to the authors, who also are forbidden to publish them. The Society reserves the right not to accept any essay. The prizes will be adjudged in the annual meeting of the Society in 1914. Essays should be sent to the President of the Society, No. 10, Rue St. Antoine, Paris, before Dec. 1st.

FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE Buffalo, New York, August 25–30, 1913, under the patronage of the President of the United States.

It is desired to bring together a record number of men and women interested in improving the health and efficiency of school children, moreover to make this Congress—the first of its kind ever held in America—one of direct benefit to each individual community.

There is now being arranged a comprehensive program of papers and discussions covering the entire field of school hygiene. There will be scientific exhibits, representing the best that is being done in school hygiene, as well as commercial exhibits of prac-

tical and educational value to school people. Nor will the entertainment of the delegates in any way be a minor feature. Plans are being made for a series of social events, including receptions and a grand ball, a pageant in the park, and excursion trips to the great industrial plants of Buffalo, as well as to the wonders of Niagara Falls, and the Rapids. Buffalo itself has just taken up a collection of $40,000 for the purpose of covering the expense of the Congress.

Delegates will attend from all the leading nations, from every college and university of note in this country, and from various other educational, scientific, medical and hygienic institutions and organizations. The Congress is further open to all persons interested in school hygiene. Membership may be secured on the payment of a five-dollar fee. Applications should be sent to Dr. Thomas A. Storey, College of the City of New York, New York City.

The man of tomorrow depends upon the child of today, and the child of today, roughly speaking, spends half his waking hours under the influence of school conditions. Are you interested in making these conditions what they ought to be? If you are, give this Congress publicity. That is one way in which you can help.

Prevention of Infant Mortality.—An English-speaking Conference on this subject will be held in Caxton Hall, Westminister, London, on Monday morning, Monday afternoon and Tuesday morning August 4 and 5. The meetings will be held under the auspices of the (British) National Association for the Prevention of Infant Mortality and The Welfare of Infancy under the patronage of the King and Queen, and will convene immediately preceding the opening of the International Medical Congress. A tentative program has been issued by the committee which indicates that the papers will consist largely of medical opinion. The subjects treated will be: The responsibility of central and local authorities in infant and child hygiene; The administrative control of the milk supply; The necessity for special education in infant hygiene; Medical problems in infant nutrition; Ante-natal hygiene.

The President of the Conference will be the Hon. John Burns, M. P., President for the Local Government Board. The chairman of the English Executive Committee is Sir Thomas Barlow, and the Secretary, Miss J. Halford, 4 Tavistock Square, London, W. C.

The American Committee, in charge of the part to be taken by the United States and Canada, will furnish information to those desiring to attend the conference.

Dr. Henry L. Coit, Chairman, 277 Mt. Prospect Avenue, Newark, N. J.

Dr. Philip Van Ingen, Secretary, 125 East 71st Street, New York City.

At the Recent Meeting of the American Medical Association at Minneapolis, Dr. G. W. Cook, delegate from this Medical Society, in obedience to the instruction of the Society of April 30, offered the following amendment to the By-Laws of the Association, Section 4, Chapter I: "Removal of members. A member of a constituent association removing from the jurisdiction thereof may remain eligible for membership in the American Medical Association for a period of eighteen months following such removal, after which such eligibility shall cease, unless or until it is reëstablished by his becoming a member of the constituent association of the jurisdiction in which he is located." The amendment was referred to the Reference Committee on Constitution and By-Laws.

REVIEWS.

Epidemic Cerebro-Spinal Meningitis. By Abraham Sophian, M. D., formerly with N. Y. Research Laboratory. With 23 illustrations, 272 pages, price $3. C. V. Mosby, St. Louis, Mo., 1913.—Dr. Sophian's book will be welcome for it represents careful observation, study and deduction. About one-fifth of the work is devoted to the etiology of the disease, with an interesting historical account. He states that the most important predisposing factor is probably unusual climatic changes which occasion general pharyngeal catarrh. The immediate exciting factor is the meningococcus, which must be virulent. It gains entry (most probably) through the nose and throat, from there it probably enters the blood stream causing septicemia with subsequent localization in the brain. There are carriers, and a small percentage of the carriers contract the disease. The symptomatology is given in a clear and concise manner with many charts and illustrative cases, and the differential diagnosis between this and other forms of meningitis is well stated. From one who was formerly connected with the New York Research Laboratory we would expect the laboratory diagnosis of meningitis to be complete and up to date and it is so in every respect. Very interesting data are given under the complications and studies in blood pressure in meningitis. The treatment of the disease is very thorough, and will repay study. Lumbar puncture and the serum treatment are fully described, and stress is laid on prophylaxis. The book has a good index.—G. N. Acker.

Pottenger, Francis Marion. Tuberculin in Diagnosis and Treatment. 8vo, pp. 243. C. V. Mosby Company, St. Louis, 1913.

The question of the practical diagnostic and therapeutic value of tuberculin is one that the accumulating experience of the past years has not yet settled, the opinions on the subject ranging from complete skepticism to ardent faith. This contribution, by one of America's foremost tuberculosis experts, based as it is on seventeen years' experience with the use of tuberculin, on about two thousand patients, must carry great weight in the settlement of this question.

On the diagnostic significance of tuberculin reactions, that is, as to the differentiation between active and quiescent tuberculous lesions, the author expresses a favorable though guarded opinion. In his experience most of the cases, at least, that reacted to a single large hypodermic injection (5 to 10 milligrams) of tuberculin were cases of active tuberculosis. He also was able to "interpret the results of the cutaneous test with a fair degree of accuracy, and base a fairly good opinion upon the activity or quiescence of the disease according to the nature of the reaction," the von Pirquet reactions attaining a maximum within about twenty-four hours indicating the active cases, while the reactions appearing later indicated the more quiescent cases.

The author's judgment as to the therapeutic value of tuberculin is also favorable, and he states that "a favorable result is obtained in a greater percentage of those treated with tuberculin than those treated without tuberculin."

The work is an extensive presentation and consideration of the subject in its practical and theoretical aspects, and must rank as an authoritative contribution thereto.—JOHN B. NICHOLS.

RECENT PUBLICATIONS BY PHYSICIANS OF THE DISTRICT OF COLUMBIA.

J. M. Anderson; The index of streptococcus in scarlatina; *Jour. Path. and Bact.*, 1911, page 106; abstracted in *Pathologica*, May 15, 1913, page 302.

W. M. Barton; New drugs of the last year or two; *Va. Med. Semi-Mo.*, June 27, page 147.

F. Bass; Experiment in schoolhouse ventilation; *Amer. Jour. Pub. Hlth.*, May.

H. A. Brown; Measles, periodic cycles of virulence; *N. Y. Med. Jour.*, June 7.

W. P. Carr; Case of adeno-carcinoma of right ovary, developing later in the left; operation; recovery; *Va. Med. Semi-Mo.*, May 23, pp. 91 and 93.

H. W. Carter; Etiology, symptomatology and treatment of nasal polypus; same journal, page 85.

C. F. Craig; The present state of our knowledge regarding the parasitic amebae; *Southern Med. Jour.*, June 4. Also, The identity of entamoeba hystolytica and entamoeba tetragena with

observations on the morphology and life cycle of entamoeba histolytica; *Jour. Infect. Dis.*, July. Also, Observations on the morphology of parasitic and cultural amebae; *Jour. Med. Research*, April, 1912; abstracted in *Pathologica*, Geneva, June 1, 1913, page 345.

N. J. Dynan; Psychological psychoses; *N. Y. Med. Jour.*, May 10.

John Foote; Hospitals, their origin and evolution; *Popular Sci. Mo.*, *May*.

T. S. D. Grasty; Influenzal meningitis; *Amer. Jour. Obstet.*, &c., May.

R. M. Grimm (P. H. S.); Pellagra; a report on its epidemiology; reprint 120, Pub. Hlth. Reports, March.

Worth Hale; Method for determining the toxicity of coaltar disinfectants; Bull. 88, Hygienic Lab., April.

M. C. Hall and J. T. Muir; Critical study of case of myiasis due to eristalis; *Arch. Internat. Med.*, February.

H. H. Hazen; Degeneration of skin pigment; *Va. Med. Semi-Mo.*, May 23, page 93.

J. D. Morgan; Hodgkin's disease; same journal, page 93.

L. Neuman and E. B. Behrend; Modification of Russo's urinary typhoid test, with report of its use in 1,000 cases and a complete bibliography; *Arch. Int. Med.*, April; abstracted in *Jour. A. M. A.*, June 7, page 1833.

L. H. Reichelderfer; Tuberculosis of the lymphatics; *Va. Med. Semi-Mo.*, June 27, page 133.

Wm. Salant and J. B. Rieger; The elimination and toxicity of caffein in nephrectomized rabbits; U. S. Dept. Agricult., Bull. 166, Bureau Chemistry, May 13.

G. S. Schwinn; Prognosis and therapy of cerebral syphilis; *Jour. A. M. A.*, June 14, page 1852.

E. G. Seibert; Middle ear disease in infancy and childhood; *Va. Med. Semi-Mo.*, May 9, page 62.

French Simpson (P. H. S.); Rat proofing, its practical application in the construction or repair of dwellings or other buildings; reprint 122 from Pub. Hlth Reports, April 11.

Edgar Snowden; Breast feeding; *Va. Med. Semi-Mo.*, May 9, page 53.

C. W. Stiles; Soil pollution; reprint 127 from Pub. Hlth. Reports, May.

J. B. Stoner; Ill effects of smoke on health and comfort; *Military Surgeon*, April.

G. H. Torney (Surg. Gen., U. S. A.); The Army Medical Corps; *Med. Rev. Rev.*, June, page 366.

J. W. Trask; Relation of mortality reports to public health administration; *Amer. Jour. Pub. Hlth.*, May. Also, Municipal ordinances, rules and regulations pertaining to public health; reprint 121 from Pub. Hlth. Reports, 1913.

G. H. Van Buren; Statement of duration of disease on death

certificate as determining factor in classifying cause of death; *Amer. Jour. Pub. Hlth.*, May.

W. A. Wells; Case of mastoid abscess without otorrhoea; *Va. Med. Semi-Mo.*, May 9, page 56.

C. S. White; Present status of surgery in fractures; *West Va. Med. Jour.*, June, page 409. Also, Skin grafting; same journal, page 139.

C. J. Wilbur; Necessity for uniformity in national, state and municipal vital statistics reports; *Amer. Jour. Pub. Hlth.*, May.

T. A. Williams; Psychogenic disorders in childhood; *Jour. Abnorm. Psych.*, February.

Proceedings of Med. and Surg. Soc., D. C.; *Va. Med. Semi-Mo.*, May 23, page 93, and June 27, page 139.

PERSONAL NOTES.

Dr. S. S. Adams was reëlected Secretary of the Amer. Pediatric Society at the annual meeting at Washington May 5 to 7.

J. F. Anderson (P. H. S.), is Chairman and M. I. Wilbert (P. H. S.), Secretary of the Section of Pharmacology and Therapeutics, A. M. A.

Dr. W. B. Borden, Lieut. Med. Corps, U. S. A., has been ordered to duty at Old Soldiers' Home, D. C.

Dr. J. W. Bovée was elected Treasurer of the Amer. Gynec. Society at the annual meeting at Washington May 6 to 8.

Dr. N. D. Brecht resigned from the Public Health Service to date May 31.

Dr. J. H. Bryan was elected librarian of the Amer. Laryng. Assn. at the annual meeting at Washington May 5 to 7.

Dr. Wm. B. Carr, Lieut. Medical Corps, U. S. A., has been honorably discharged from the service, with one year's pay.

Dr. A. B. Clifford, U. S. Navy, has been ordered to the Naval Medical School, this city.

Dr. Frank Edgerton and Miss Mary E. Eagan, both of Washington were married June 5.

Dr. P. C. Fauntleroy, Major Med. Corps, U. S. A., has been ordered to duty at Fortress Monroe.

Dr. J. R. Francis died May 23.

Dr. H. D. Fry took part in the discussions of the Amer. Gynec. Society at Washington May 6 to 8.

The mother of Dr. Frank E. Gibson died June 20.

Dr. J. D. Glennan, Colonel Medical Corps, U. S. A., has been ordered to Old Soldiers' Home, D. C.

Dr. G. M. Kober is Chairman of the Committee on Red Cross Medical Work, A. M. A.

Dr. L. L. Lumsden (P. H. S.), has been ordered to attend the conference of State Health Officers at Lawrence, Kansas.

Dr. Chas. Lynch, Major Med. Corps, U. S. A., has been ordered to the Philippines.

Dr. M. H. Neill, P. H. S., has been ordered to duty at the Hygienic Laboratory.

Dr. J. L. Neilson, U. S. N., has been relieved from duty at the Bureau of Medicine and Surgery, U. S. N., and transferred to U. S. S. *Illinois*.

Dr. Rupert Norton, formerly a member of this Society, now of Johns Hopkins Hospital, was married June 7 to Miss Cecelia Hendrickson, of N. Y. City.

Dr. R. U. Patterson, Med. Corps, U. S. A., has been assigned to duty with the Amer. Red Cross, Washington.

Drs. P. L. Pleadwell and J. C. Pryor, U. S. Navy, have been ordered to the Naval Medical School, this city.

Dr. C. A. Ragan (U. S. A.), has been ordered to Fort Oglethorpe, Ga.

Dr. C. W. Richardson (Lieut. Med. Res. Corps, U. S. A.) delivered the address to the graduates of the Army Med. School May 31.

Dr. F. F. Russell, Major Med. Corps, U. S. A., represented the Army Med. Dept. at the meeting of the A. M. A. at Minneapolis.

Dr. J. W. Schereschewsky (P. H. S.), has been ordered to investigate trachoma in Tennessee and give a series of lectures at the University of Tennessee.

Dr. C. F. Stokes, Surg. Gen. U. S. Navy, was elected one of the regents of the recently organized society, American College of Surgeons.

Dr. B. S. Warner, P. H. S., took part in the discussion at the meeting of the Nat. Assn. Study and Prevent. Tuberculosis, at Washington, May 8 and 9.

Drs. C. L. Wilbur and W. C. Woodward are members of the Committee on Revision of the model vital statistics law, A. M. A.

Dr. W. C. Woodward is also a member of the following Committee of the A. M. A. Awards for the Scientific Exhibit; National Dept. of Health; and Council of Health and Public Instruction.

At the tenth annual meeting of the Amer. Soc. Trop. Med., Dr. E. R. Stitt, U. S. N., presided; Dr. C. F. Craig, U. S. A., was elected one of the Vice Presidents; the following took part in the discussions: Drs. Stitt, Craig, C. S. Ludlow, H. J. Nichols, U. S. A., and Frederick Knab.

At the annual meeting of the Amer. Therap. Soc. at Washington May 5 and 6, Dr. N. P. Barnes presided; Dr. L. A. Taylor was elected Secretary; Drs. Barnes, Wiley and Kinyoun took part in the discussions.

The Washington Members of the Council of Pharmacy and Chemistry of the A. M. A., are Drs. L. F. Kebler, H. W. Wiley, M. I. Wilbert and Reid Hunt.

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WASHINGTON MEDICAL ANNALS

RETROCALCANEAN BURSITIS.*

By Charles Stanley White, M. D.,
Washington, D. C.

There are several affections peculiar to the heel, the most interesting of which is inflammation of the bursa between the os calcis and the tendo Achillis. It has come in for very little consideration at the hands of pathologists or surgeons for the very simple reason that the disease is uncommon. Anatomists have noted the presence of the bursa for a very long time, and have taken into account two other bursae in the immediate vicinity, besides a great many others throughout the body. The fact that there are almost innumerable bursae in the entire body has probably discouraged investigation along the clinical side, as the statement that seventeen exist about the elbow joint would tend to remove any tendency toward a systematic study of bursal affections. The literature in textbooks, and even of special articles, upon the retrocalcanean bursa has been scant, and an accurate description has not been found available by the author, who supplemented by dissections such descriptions as were obtainable in a survey of literature in the Surgeon General's Library. No attempt is made to treat the subject exhaustively, and it is hoped that others with more time, patience and scientific attainments will continue it.

Albert, of Vienna, in 1893, described the inflammation of this bursa, and it was promptly, but improperly, named Albert's Disease. Retrocalcanean bursitis and achillodynia are terms used synonymously. Albert dwelt upon trauma as the cause, and opined that it was cellulitis about the tendon, or even a periostitis; laying little or no stress upon the part played by the bursa. It remained for Max Muller, of Berlin, with true German persistency, to fix the pathological responsibility upon the bursa, which he did by injections and incisions into the bursa.

The normal bursa is difficult to demonstrate as an anatomical structure, and even histologically it often seems rudimentary, as the endothelial lining is not always apparent. It measures about one inch in its vertical diameter, three-fourths of an inch transversely, and about one-eighth inch in thickness. Its superior

* Read before the Medical Society May 21, 1913. Published also in the *N. Y. Med. Jour.*, August 9, 1913, page 263.

pole is on a slightly lower level than the upper border of the os calcis. It is encased in fat, from which it may be difficult to differentiate, and lies between the os calcis and the tendo Achillis, containing within its walls a small quantity of clear fluid. The sac is very delicate and is said to be derived from the periosteum and sheath of the tendon, but this is largely theory. The bursa becomes a very concrete object in its inflamed state, and bears little resemblance to the frail sac of the normal (all walls and fluid having become magnified many times) and it is then designated a bursal cyst or hygroma. Rossale found few normal bursae in 225 dissections.

The causes of retrocalcanean bursitis, as it should be termed, have been elucidated, and chief among the etiological factors is trauma, acute or chronic, appearing as illfitting shoes, irritation by excessive walking, bicycle riding, resting the limbs upon the heels, and certain occupations which tend to produce pressure at this point. Infection through a break in the epithelium is possibly an exciting cause. More remote agencies are tuberculosis, gonorrhoea, rheumatism, and the infectious diseases; but these are of a decidedly minor importance. Flat foot has naturally come in for its share of responsibility in producing the disease, but it is more often an accompaniment than an originator. Physiologically, it may be said that irregularities of the os calcis, more particularly those cases having a small spine posteriorly, have played a part, but the x-ray has demonstrated so many deviations in bone contours that this is almost a negligible factor. Briefly stated, the pathology is that of hyperplasia of the capsule and excessive secretion. The bursa never reaches the great size of a *housemaids' knee*, and one the size of an almond may be considered large. According to Tubby, a hygroma may undergo any of the following changes: (*a*) hemorrhagic degeneration; (*b*) fibroid degeneration; (*c*) tuberculous infection.

While the symptoms are typical if understood, an attending flatfoot is likely to be indicted for the condition. The physician is consulted because the patient has pain about the heels, more especially at night. This is usually relieved by rest over night, only to return each evening, if he is up and about, as walking provokes pain, and he may be nearly incapacitated for this reason alone. After the disease has lasted for a few weeks or months, the pain no longer remains confined to the heels, but radiates up the leg and down the sole of the foot. The gait is typical and is just what may be expected if our conception of the pathology is correct. If the patient is directed to walk barefoot, he will take short steps and keep the weight largely upon the ball of the foot, the heels scarcely touching the floor. In other words, he keeps the foot in plantar flexion, as much as possible, because dorsal flexion, such as is employed in a long natural stride, compresses the swollen bursa and elicits pain. The patient naturally walks

in the most comfortable way, namely, on the anterior portion of the foot, and if he is directed to walk upon the heels it is painful, if not impossible. The history, then, will be pain in the heel, extending to the calf and sole, worse during the day, aggravated by walking, with relief at night, insidious in its onset, and extending over a long period. An inquiry into the patient's habits may furnish a clue in the way of bad shoes or too much walking. Acute trauma is uncommon.

Between the os calcis and tendo Achillis swelling is visible and palpable. It is moderate and symmetrical, shades off into the surrounding tissue, and it is difficult to determine either by the eye or finger its exact limitations, so closely is it in contact with the tendon and bone. It has not the fixation of a bony growth nor the pseudo-fluctuation of a fatty tumor, but appears to be of the same density and mobility as a *ganglion*. In the suppurative type fluctuation is present. Pressure upon the bursa causes pain, but this can be brought out in another way, namely, by grasping the heel with one hand and flexing the foot dorsally with the other. This movement brings the tendon and os calcis closer together, compresses the bursa, and elicits pain, just as though the bursa had been compressed between the fingers. The swelling varies from time to time, within moderate limits, the exacerbations probably depending upon the abuse or misuse of the part.

The persistency of the affection has been known as long as the disease has been described; in fact, this is a conspicuous symptom, noted by Albert and others. It also tends to recur. Rest has proved beneficial and in many instances curative, but the prolonged, though successful treatment by this means is offset by the pecuniary loss to the patient and the proclivity to relapse. Local applications in infinite variety have been used, but iodine and ichthyol have withstood the ravages of a kaleidoscopic materia medica. Incision and drainage and injection of iodoform emulsion are two methods that have slowly succeeded in reducing the bursa to its outer vestments only. The author believes the rational surgical treatment is complete removal of the bursa, an operation simple in its execution and prompt in its results.

Operation.—Probably the best method of cleansing the area is by the older process with green soap, alcohol, ether and mercury bichloride the night preceding the operation and also on the day of the operation. While the bursa is equally accessible from either side, the inner side is preferable for the reason that the scar is less exposed to view and less likely to be traumatized. The skin is divided for three inches between the tendo Achillis and the os calcis, with the center of the incision over the greatest prominence of the bursa. With the foot held in extreme plantar flexion, the tendon is relaxed, and retraction of the skin, fat and fascia is facilitated; exposing the hygroma, which, in the inflamed state,

is easily seen. With scissors and slight traction with dissecting forceps the bursa can be removed without injury to any important structure. Should the sac be indistinct, the fat between the bone and tendon should be removed, as this will include the bursa. It is true that at times it may be almost concealed by lipoid tissue, but usually it comes into view as soon as the proper retraction is made. It is not uncommon to find the superior posterior angle of the os calcis quite sharp, almost spinous in type, and it may be rounded off with an osteotome, though this is not at all necessary. Little or no hemostasis is required, and the wound is closed without drainage, and the foot then placed in slight plantar flexion, a starch or plaster bandage being used to retain it so for about eight days, at the end of which time the dressing should be changed, passive motion started, and the foot allowed to resume a natural position. The patient should be allowed to walk at the end of twelve or fourteen days, but this will be painful for a while. At the end of three or four weeks recovery is usually complete.

The following case was referred to me by Doctor Whitson, of Washington, and was the first I have treated by the method outlined in this paper:

G. B., aged twenty-five years, male, salesman. His family history is negative, especially with reference to tuberculosis in its commoner forms.

Previous history: He had pneumonia at the age of ten years and again at fifteen years, making a good recovery in each instance. He had never had venereal disease.

Present illness: In May, 1910, he complained of stiffness about the heels and ankles, but which improved a little after walking. His occupation kept him on his feet, but the improvement was of short duration, and he soon found that exertion increased the pain and produced a slight swelling just anterior to the attachment of the tendo Achillis. In July, walking became painful to such a degree that it was almost unbearable. He then consulted several physicians, and for the following year was treated for rheumatism, neuritis, and flat foot, without improvement. When examined in August, 1911, he showed a distinct swelling over each retrocalcanean bursa, with tenderness upon pressure. His most comfortable gait was a short step, and upon the toes. A long stride was intolerable. On August 21st, both bursae were removed under a general anesthetic. He was kept in bed two weeks, with the feet in slight plantar flexion by a light cast. Three weeks later he was able to walk in comfort, and has not been incapacitated since.

Dr. A. A. Snyder had no case of the kind spoken of in the paper to present, but he took the opportunity to exhibit photographs of a case of double housemaid's knee in a man.

CASE OF PNEUMOTHORAX.—ABSTRACT.*

By Paul B. Johnson, A. B., M. D.,

Washington, D. C.

White man, 27 years old, employed in U. S. Astrophysical Observatory, Washington, D. C. Possible mild pulmonary tuberculosis at 11 years, otherwise always well. Occupations chiefly sedentary. Never lived at high altitudes until 1908, when sent to observatory, Mt. Wilson, Cal.; 6,000 feet. No ill effects. In 1911 again sent there, five months. More dyspnoea than in 1908, and occasional slight pains right lower anterior chest.

December 12, 1911, three weeks after leaving Mt. Wilson, again felt similar slight chest pains, while sitting quietly at breakfast. Patient thought it was gas in his stomach. It was probably a small rupture of the lung surface. Pain slowly increased and a swollen feeling came on, while he went to his office. He soon had hard dry coughing spells, which probably enlarged the tear in the lung. He then felt "muscular contractions" in upper abdomen and lower chest, intermittent drawing together from both sides towards the middle. He tried to make himself belch but could not. In half an hour, these contractions became so severe that they seemed to be forcing the air out of his lungs. He held his breath and strained against them, then took rapid shallow breaths, holding his chest fixed. The compression of the lung was probably now complete. For a while he had so great distress as to make him fear for his life. On his way home, afoot and by street car, he was given some remedies for indigestion, without effect. At home, he could not lie down for two hours, his heart beat very rapid, and a feeling of great distention causing dyspnoea. By night he was more comfortable. A physician saw him and treated him for pyloric obstruction and a cold. After his bowels moved he slept well.

He improved with rest, feeling only slight soreness when quiet, but having cough, dyspnoea and frequent pulse when he walked much. By the fifth day he worked half a day, and walked to the church where he was organist and played for evening rehearsal. Next day played for two church services, coughing much, with slight dyspnoea. On the seventh day he worked all day, coming to me that evening.

Examination showed apex beat in nipple line, most of right chest more resonant than left and right posteriorly showed resonance one inch lower than left. Breath sounds exaggerated on left posteriorly. On right, amphoric breathing, soft, clear and high pitched, heard best above, anteriorly, accompanied by granular breathing; below it was inconstant to the posterior axillary line, and not heard further back. Deep breathing intensified it,

* Reported to the Medical Society May 21, 1913.

so heard clear to the spinal column. Vocal fremitus increased on right below and posteriorly.

Right-sided pneumothorax seemed probable, although some of the signs suggested that the upper part of the lung might not be fully compressed. Adhesive strapping was applied to lower right chest in expiration, and patient told to keep quiet.

Two days later metallic tinkling and the coin sound found distinct; no succussion sound. Liver displaced but one inch downwards. December 21 was sent to the Garfield Memorial Hospital and remained there seven weeks. Cough and slight dyspnoea gradually lessened and ceased after twelve days. Physical signs varied much from day to day, the complete classical picture never present. Gas moving in the bowels was once heard just below the clavicle as bell-like gurgling. Repeated examinations showed a silent area extending as a narrow strip across the right chest at the level of the third rib, and noted also posteriorly to the spine. Along this line amphoric breathing was absent and the coin sound greatly muffled. This was probably caused by a pleural adhesion. The resonant area was easily outlined by auscultation of the coin sound, and found to extend an inch to the left of the sternum and down over the abdomen, excepting over the narrow strip mentioned. The lower border of this area showed a deep notch with its tip at the ninth rib, probably caused by the falciform ligament of the liver. If this notch is constantly present, it should be of some value in the differential diagnosis of pneumothorax.

January 4, 1912, all signs much less distinct and breath sounds noted in right first interspace. Two radiographs, taken by Dr. Walter H. Merrill, radiographer of Garfield Memorial Hospital, showed compression of right lung, with a wedge-shaped adhesion to the upper axilla, absence of fluid in the pleural sac, and but slight displacement of the liver and mediastinum. In spite of the very great collapse of the lung thus shown, two days later no amphoric breathing or distinct metallic tinkling could be heard, and signs of the apposition of pleural surfaces were found; fine crepitations and clicks over right lower ribs anteriorly. These continued and spread upwards and backwards as the older signs disappeared. The breath sounds reappeared more slowly. During this time the patient was given breathing exercises, very slowly increased. Three weeks after the pleural frictions were first heard, having increased in number, loudness and extent, they were heard also over an area resembling a distended pericardium. Here they were synchronous with the heart beat, louder in inspiration, not heard during the respiratory pause. There was no rise of temperature and probably no fresh inflammation of the pleura or pericardium, but a coming together of pleural surfaces already roughened. These pleuro-pericardial sounds persisted four days, and the other pleural frictions six

days longer. Coincidently, normal breath sounds were heard over wider areas of right chest and the heart sounds were again heard to the right of the sternum.

Patient left hospital February 9. Walking and breathing exercises had been gradually started and were slowly increased from then on, keeping always short of discomfort.

March 24, radiograph by Dr. Merrill showed complete expansion of right lung. Patient doing well, had occasional slight chest pains and that side readily felt jars. Chest still showed flattening on right and bulging over precordium. Posteriorly resonance extended down half an inch lower on right. Granular breathing persisted in the second right interspace anteriorly. Vocal resonance increased, whole right side. No frictions or rales.

Patient examined in July, October and December, 1912, and no essential differences noted. Did not visit Mt. Wilson in 1912, but went there this summer (1913) and has had no trouble.

Dr. Macatee said that Hoover, of Cleveland, had pointed out that when the diaphragm is kept elevated by paralysis or by the upward pressure of some mass in the abdomen, it is at a mechanical disadvantage and in consequence there is a widening of the subcostal angle and of the intercostal spaces on inspiration ; on the other hand, when the diaphragm is held down by some supraphrenic condition, then it is at a mechanical advantage, the lower ribs are pulled together, there is a diminution of the intercostal spaces and a lessening of the subcostal angle on inspiration ; this last being the mechanical state present in Dr. Johnson's case it may account for the sense of constriction felt by the patient early in his attack.

Dr. W. P. Carr knew of only one condition simulating pneumothorax. He had seen a case of injury in which there had been a rupture of the diaphragm and the dilated stomach had been thrust up into the chest ; all the physical signs were those of pneumothorax and the differentiation was made at autopsy.

WANTED A SHARE. — Proud and pompous the doctor was strolling down the streets, when he was spoken to by a poor woman.

"Good morning, sir," remarked the latter.

"Good morning, madam," replied the medico.

"I expect you are making a good thing out of attending to that rich Smith boy," suggested the lady.

"O, yes, a fairly good fee," replied the doctor somewhat angrily.

"Well," whispered the lady, "I hope you won't forget that it was my boy Willie who threw the brick that hit him."

—*London Answers.*

POTASSIUM PERMANGANATE AS A LOCAL ANESTHETIC TO THE GENITO-URINARY MUCOUS MEMBRANE.*

By Wilfred M. Barton, M. D.,

Washington, D. C.

Potassium permanganate was introduced into medicine in 1857, and in 1861 Condy[1], before the French Academy of Medicine, presented the first memoir bearing upon its therapeutic application.

Since that time the drug has been put to a variety of uses in medicine, both internally and externally, and the literature upon the subject is considerable.

Its earliest application was as an external agent of disinfection both of infectious material outside the body and as a local disinfectant of ulcers, wounds and septico-purulent conditions generally, such as are to be found in diphtheria, ozena, inoperable cancer, abscess, gangrene, etc.

As a surgical antiseptic (1 to 3 per cent.) it was at one time quite extensively used, especially for disinfecting the hands and field of operation, but other methods, perhaps more effective and less objectionable, have long since superseded it.

In internal medicine it has found very few applications. It has, however, been used as an emmenagogue[2] and in chronic malarial infection[3]. These uses of potassium permanganate have apparently not survived.

There are three uses for potassium permanganate which are regarded at the present time as of some though varying importance. These are: I. As an antidote locally applied in the treatment of snake poison. This treatment was introduced by Lacerda[4] of Rio Janeiro in 1882. II. As an antidote to opium poisoning, applied by lavage. This treatment was introduced in 1884 by Moor[5], the theory being that the poison was oxidized by the permanganate and thus made harmless. For this purpose it is used in one-third per cent. solution copiously by lavage. III. In the treatment of gonococcus infection of the genito-urinary tract. This method, consisting of lavage of the urethra and bladder, using a blunt canula and solutions of varying strength of potassium permanganate, was introduced by Janet[6] of Paris in 1890 and was reported in 1892. This treatment with certain modifications, particularly as to strength of solutions, is employed extensively at the present day.

Some time ago I found that the injection of potassium permanganate into the urethra and bladder caused a transitory but quite complete desensitization of the mucous membrane of the

* Read by title before the Medical Society May 28, 1913.

urethra, anterior and posterior, of such a degree and character as to allow of the painless passage of sounds.

In a search through the literature I have not been able to find any reference to this anesthetic action of potassium permanganate, and, since the drug appears to possess local anesthetic powers of no inconsiderable degree upon the mucous membrane of the genito-urinary tract, I take the liberty of reporting the fact to my colleagues of the Society in the hope that whatever practical application may be made of it will be determined. I have already written a preliminary report upon the subject containing the data already accumulated, which will soon appear in the *Journal of the American Medical Association.*[7] It will therefore be unnecessary for me to repeat those observations here.

Briefly stated, the facts are these. An anesthesia of the mucous membrane of the urethra is completely and satisfactorily produced by solutions of potassium permanganate in the strength of 1 to 2,500 to 1 to 5,000. The anesthesia is incomplete and unsatisfactory when the dilution is raised to 1 to 10,000. The minimum limit of dilution to obtain satisfactory anesthesia therefore lies at 1 to 5,000. The maximum limit of concentration will, of course, be governed by the fact that solutions in excess of 1 to 2,000 in the posterior urethra should not be used.

Experiments which we have made upon the skin show that it is entirely unable to produce any anesthesia there. This is probably due to the impossibility of penetration to the nerve terminations before reduction of the compound takes place.

It is perhaps superfluous to speculate upon the explanation for the undoubted anesthetic power which potassium permanganate exerts upon the urethral mucous membrane, but it is reasonable to suppose that the liberation of nascent oxygen in a more or less confined space is in some way connected with it.

The practical deductions from the facts above stated may be important since a method of producing a satisfactory anesthesia of the mucous membrane of the urethra and bladder, devoid of toxicity, extremely simple and economical, should be worthy of use.

It seems as though the chief application of the method will be to produce a rapid, economical, safe and efficient desensitization of the genito-urinary mucous membrane so as to allow of the painless passage of sounds.

In cystoscopic work it is possible that the solution may obscure the field of vision, as pointed out to me by Doctor Lehr, and the ephemeral character of the anesthesia may preclude its being of great use in this direction except for manipulations that can be done in five to ten minutes.

Leaving all speculation aside, however, the use of the method by genito-urinary physicians will soon determine the scope of its usefulness and define its limitations.

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PROCEEDINGS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Wednesday, May 14, 1913.—The President, Dr. W. P. Carr, presided ; about 100 members present.

The Treasurer reported for April, receipts, $90.00 ; disbursements, $204.42.

The following candidates for membership were elected. Active members : Drs. Louis Mylius Babendrier, Georgetown University, 1910. Harry A. Bishop, University Maryland, 1912. Thos. Victor Hammond, Jefferson, 1908. Walter Price, George Washington, 1910. Murray A. Russell, Georgetown, 1908. John W. Warner, University and Bellevue, 1909.

Associate members : Elbert E. Persons, U. S. Army. James Chambers Pryor, U. S. Navy.

The Society ordered that any deficiency in the fund for the Gallinger reception should be paid by the Society.

The following applications for membership were received :

Sacks Bricker, George Washington University, 1912.

Caryl Burbank, Georgetown, 1903.

Daniel Witter Higgins, George Washington, 1908.

Wm. Henry Huntington, George Washington, 1910.

Joseph J. McCarthy, Georgetown, 1911.

Jesse Irving Sloat, George Washington, 1912.

Richard Lee Spire, George Washington, 1906.

Associate member : Carl Lucas Alsberg, Chief of Bureau of Chemistry, Dept. Agriculture.

On recommendation of the Executive Committee the Society extended an invitation to the American Medical Association to meet in Washington in 1914.

Major Thos. L. Rhoads, Medical Corps, U. S. Army, addressed the Society on the Work of the Sanitary Department in the flooded district, Dayton, Ohio ; profusely illustrated. A rising vote of thanks was given to Dr. Rhoads.

Wednesday, May 21.—The President, Dr. Carr, presided; about 60 members present.

The Society extended congratulations to Dr. N. F. Graham on his attaining his fifty-second year in the practice of medicine.

An appropriation of $87.85 was made to pay for the publication of the May number of the ANNALS, and the Treasurer was authorized to pay the bills for publication during the summer recess.

The Treasurer was authorized to have printed such blanks as were necessary to properly conduct his office.

On motion of Dr. H. H. Hazen the President was instructed to appoint a committee to investigate the prevalence of venereal diseases in the District of Columbia and suggest possible remedies therefor.

Dr. Ong read a paper on The serum treatment of epidemic cerebro-spinal meningitis; discussed by Drs. S. S. Adams, Carr, Acker, Macatee, Wickliffe and Ong.

Dr. C. S. White read a paper on Retro-calcanean bursitis; discussed by Dr. A. A. Snyder. See page 255.

Dr. P. B. Johnson reported a case of Pneumothorax, and presented the patient; discussed by Drs. Macatee and Carr. See page 259.

Wednesday, May 28.—The President, Dr. Carr presided; about 125 members present.

Dr. S. S. Adams, Chairman of the Milk Committee, reported that the committee had considered Senate bill 1630 and recommended that the Society instruct the Executive Committee to urge the passage of the bill by Congress. So ordered.

On recommendation of the Executive Committee the Society extended an invitation to the American Association for the Study and Prevention of Infant Mortality to hold its annual meeting in November in Washington. On recommendation of the same committee, the Society ordered that a committee be appointed to further the interests of a proposed memorial to Dr. John Morgan, the founder of the first medical school in America.

The Executive Committee reported its findings and recommendations in the matter of the complaint of Dr. A. B. Hooe against the management of Providence Hospital. The reading of the testimony in this case was called for and the testimony given at the meeting of the committee May 19 was read, after which the Society adjourned.

The following is the report of the committee:

"In the complaint of Dr. A. Barnes Hooe against Providence Hospital, after a laborious and painstaking investigation and at a cost of about $125 to the Society, the following resolution was unanimously adopted:

"*Resolved:* (1) That in the matter of the charges presented by Dr. A. Barnes Hooe against Providence Hospital we report unanimously that the evidence shows that in the cases cited by

Dr. Hooe, and in several other instances, some of the Sisters in Providence Hospital have endeavored to induce patients sent to the hospital by physicians not members of the staff of the hospital, to change their medical attendants.

"(2) That in [nearly]* every such instance a member of the staff has profited by such efforts and such change.

"(3) In order to obviate this state of affairs we recommend that the following amendment to the By-Laws be adopted: That no member of the staff of any hospital receiving patients in private rooms shall attend a patient sent to that hospital by a member of this Society, not a member of the staff, unless specifically asked to do so by the attending physician.

"Voted that as Drs. E. W. Burch and W. F. McLaughlin twice failed to respond to the summons of the Executive Committee they be reported to the Society for such action as it sees fit for violation of Article 7, Section 7, of the By-Laws of the Medical Society.

"The following resolution was unanimously adopted: The Executive Committee is the creature of the Medical Society. In its conduct it has and will always endeavor to obey the behests of its creator. It will not be intimidated by opprobrious epithets nor swerved from its duty by threats or derogatory criticism. Your committee feels constrained to say that the disgraceful and unwarranted manner in which it was assailed by some of the members of the Society at the meeting of Wednesday, April 16th, was a gross insult to the Society and deserves the gravest censure."

Dr. A. B. Hooe, stated that Drs. E. W. Burch and W. F. McLaughlin, who at his request had been summoned to appear before the Committee, had failed to appear through misapprehension.

Wednesday, June 4.—The President, Dr. Carr, presided; about 250 members present.

An appropriation of $71.00 was made to pay the rent of the hall and use of stereopticon; $19.00 to cover the deficit in the fund for the Gallinger reception; and $10.00 for printing and mailing letters asking support of delegates for a meeting of the American Medical Association in 1914, in Washington.

The resignation of Dr. W. B. Johnston from membership was accepted.

The reading of the testimony in the case of Hooe against Providence Hospital was completed.

Dr. Cuthbert, having the floor on a question of personal privilege, stated that the Advisory Board of Providence Hospital, of which he was chairman, had had information which had caused the members of that board to take a different attitude toward the Executive Committee than that indicated by statements made

* Amendment offered by Dr. T. A. Williams and adopted by the Society.

in the Society at former meetings; while the statements were made from a sincere feeling that the hospital and its board had been badly treated, it had become apparent to the members of the board that there had been no intent on the part of the Executive Committee to do injury to the hospital or its board, and he wished to express his confidence in the Executive Committee in its inquiry in this case.

Dr. G. Wythe Cook, Chairman of the Executive Committee, made a statement on behalf of the Committee and in appreciation of the remarks made by Dr. Cuthbert; he stated further that the committee had had an intimation that the attitude of the members of the Advisory Board of Providence Hospital had been based on misunderstanding and that at the last meeting of the Executive Committee the following resolution had been adopted with two dissenting votes: "Since it has become apparent to the Executive Committee from credible information that remarks made by certain members at the meeting of April 16th (which remarks the committee has characterized as deserving of grave censure) were made upon the erroneous belief, conceived in good faith, that the committee had acted in a manner inimical to the interests of the staff of Providence Hospital, the committee is disposed to recognize the fact that such a feeling might have been aroused by such evidence as was available to these members at the time, and we wish to withdraw the recommendation of censure. We wish to state, however, that the recommendation was based on our consciousness of rectitude of intent, and we feel that it is important to remind members that they are first members of this Society and then members of hospital staffs."

Dr. Cook moved the immediate consideration of this resolution as a substitute for the last paragraph of the report of the Executive Committee submitted at the meeting of May 28. Seconded.

Dr. J. D. Thomas stated that he had opposed the adoption of the resolution just reported from the Executive Committee on the ground that the original report was justified by the facts and that nothing had transpired to alter those facts; in view of the statement made by Dr. Cuthbert, he gladly withdrew any opposition to the resolution and wished to record an affirmative vote.

Dr. Louis Mackall stated that he also had opposed the resolution from the same convictions as those expressed by Dr. Thomas, but that he also desired to withdraw his opposition and to record an affirmative vote.

The resolution was unanimously adopted.

The report of the committee, as amended, was then adopted with but one dissenting vote.

Dr. Cook, for the Executive Committee, stated that letters of explanation and apology for failure to respond to the summons

of the committee had been submitted by Drs. W. F. McLaughlin and E. W. Burch; in view of this fact, the committee recommended that these physicians be not censured, but that they be admonished that the By-Laws governing this matter are obligatory upon all members. The recommendation was adopted.

Adjourned *sine die*.

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Editorial.

History of the Medical Socety of the District of Columbia.—Price $1.00, with 25 cents added if delivered in this city or sent by mail. Address Dr. C. W. Franzoni, 605 I Street, N. W. The books are in the custody of Dr. D. S. Lamb, at the Army Medical Museum.

THE OTHER MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

Medical and Surgical Society of the District of Columbia.—President, H. P. Parker; Vice President, D. P. Hickling; Secretary and Treasurer, L. Eliot; Recording Secretary, L. C. Ecker; Executive Council, A. R. Shands, O. A. M. McKimmie, L. Eliot, E. P. Copeland and L. H. Reichelderfer.

Society of Ophthalmologists and Otologists, Washington, D. C., 1913–1914.—Officers: President, J. J. Richardson; Vice President, L. S. Greene; Secy.-Treas., A. B. Bennett, Jr.

Membership.—Active Members: Drs. A. B. Bennett, Jr., J. H. Bryan, W. K. Butler, John W. Burke, Virginius Dabney, H. S.

Dye, L. S. Greene, F. M. Chisolm, Carl Henning, A. H. Kimball, R. S. Lamb, F. B. Loring, O. A. M. McKimmie, W. P. Malone, W. B. Mason, M. E. Miller, S. B. Muncaster, Mead Moore, W. S. Newell, H. A. Polkinhorn, J. J. Richardson, E. G. Seibert, R. R. Walker, W. A. Wells.

Inactive Members: Drs. W. N. Souter, C. W. Richardson, D. K. Shute, W. H. Wilmer, Wm. H. Fox.

Meetings are held on the third Friday in each month from October to May, inclusive.

THE WOMEN'S MEDICAL SOCIETY of the District of Columbia.—President, Sophie Nordhoff-Jung; Vice President, Ada R. Thomas; Recording Secretary and Treasurer, Patience Bordeau-Sisco; Corresponding Secretary, Elizabeth Sohon.

GALEN SOCIETY of the District of Columbia, 1912–1913; R. Lee Spire, President; Wm. H. Littlepage, Secretary-Treasurer.

Oct. 20. At D. W. Tastet's, 2827 11th St; Election of officers; Miscellaneous business.

MEDICAL HISTORY CLUB of Washington, D. C., 1912–1913. Officers: President, G. Wythe Cook; Vice President, W. W. Wilkinson; Secretary, H. W. Lawson, 1117 Vermont Avenue. Executive Committee: I. S. Stone, F. H. Garrison, B. M. Randolph and the officers. Members: Truman Abbe, Frank Baker, W. C. Borden, G. Wythe Cook, J. A. Foote, F. H. Garrison, Howard Hume, H. W. Lawson, G. Brown Miller, J. D. Morgan, J. B. Nichols, B. M. Randolph, C. W. Richardson, Philip S. Roy, Sterling Ruffin, I. S. Stone, Joseph Wall, W. W. Wilkinson.

GEORGETOWN CLINICAL SOCIETY; twenty active members limited to graduates of the Medical Department of Georgetown University. Meets at the University Club on the second Tuesday of the month. J. Russell Verbrycke, Jr., President; John Foote, Vice President; Ralph LeComte, Secretary-Treasurer.

THE MEDICAL SOCIETY OF GEORGETOWN UNIVERSITY has a membership of 97 active members and meets on the second Saturday of the month at the Medical School. Officers: Wm. C. Gwynn, President; Geo. W. Wood, First Vice President; Ralph Hamilton, Recording Secretary; J. Russell Verbrycke, Jr., Corresponding Secretary.

THE HIPPOCRATES SOCIETY, membership limited to 25, with voluntary retired members after 10 years, meets on the second Thursday of the month. Officers for the year are L. M. Hynson, President; Wm. Earl Clark, Vice President; J. Russell Verbrycke, Jr., Secretary-Treasurer.

Clinical Society of Washington.—Composed of 25 active members besides retired members. Officers: C. M. Hammett, President; T. A. Groover, Vice President; W. E. Clark, Secretary-Treasurer; L. A. Johnson and J. D. Thomas, Censors.

Clinico-Pathological Society.—Active membership limited to 25. Inactive membership: those who have withdrawn from active membership for 15 years. A limited honorary membership of distinguished medical men. Meets on first and third Tuesdays from October to May, inclusive. Officers: W. G. Morgan, President; Sothoron Key and E. E. Morse, Vice Presidents; B. M. Randolph, Secretary and Treasurer.

The Freedmen's Hospital Medical Society meets on the third Tuesday of each month from October to May, inclusive. Its membership is composed of physicians connected with the Staff of the Hospital and the Medical Faculty of Howard Medical School. The present officers are A. M. Curtis, President; S. L. Carson, Vice President; C. A. Allen, Secretary-Treasurer; Committee on Program, E. A. Balloch, S. L. Carson and H. H. Hazen.

Therapeutic Society of the District of Columbia.—Meets at the G. W. School of Pharmacy, 808 I Street, N. W., on the first Saturday in each month. G. W. Latimer, President; A. P. Tibbets, Secretary.

Oct. 4, paper by Adam Kemble and J. J. Kinyoun, The diagnosis and treatment of chronic gonorrhoea, with remarks upon the complement fixation test; discussion led by H. A. Fowler.

Nov. 1, paper by W. M. Barton, Chemo-therapy; discussion led by N. P. Barnes.

The Washington Society of Nervous and Mental Diseases is in its sixth year and, although of limited membership, welcomes those physicians who are interested in neurology, psychiatry and psychopathology. There are no dues, and the members entertain the Society in turn.

Society of Social Hygiene, Washington, D. C.—President, Surgeon General Stokes, U. S. Navy; Secretary, Lt. Col. J. R. Kean, U. S. Army, Surgeon General's Office. The Society has four committees, namely: Education, Venereal Diseases, Protection of Women and Children, and Psychopathology. Yearly dues, $1.00. Persons desiring to become members should address Col. Kean and state to which committee they wish to be assigned.

The Secretaries of the other Medical Societies of this District are reminded that the Annals will publish the schedules of their meetings.

THE WASHINGTON MEDICAL ANNALS. — Back numbers. — Members of the Society who have back numbers of the ANNALS, and do not intend to preserve them, are requested to send them to the Chairman of the Publication Committee. Requests for such numbers are frequently received. Address Dr. D. S. Lamb, Army Medical Museum.

OWEN BILL.—To establish a Department of Health. See *Jour. A. M. A.*, April 26, page 1320.

PRIZES.—Prizes consisting of medals in gold, gold plate, silver and bronze, also honorable mention, will be awarded by the *Societé d'Hygiene de l'Enfance*, Paris, to the best essays on the following subject: "The place that should be occupied by Puericulture and Infant Hygiene in modern education." Essays must be received before January, 1914; may be in French, English, German, Italian or Spanish; not signed, but at the head must be placed some device which is to be reproduced with the author's name and address in an accompanying sealed envelope. The essays become the property of the Society, will not be returned to the authors, who also are forbidden to publish them. The Society reserves the right not to accept any essay. The prizes will be adjudged in the annual meeting of the Society in 1914. Essays should be sent to the President of the Society, No. 10, Rue St. Antoine, Paris, before Dec. 1st.

GETTYSBURG REUNION OF JULY, 1913.—The following Washington physicians gave medical service at the Reunion: Drs. R. S. Beale, Caryl Burbank, R. L. Cook, E. H. Egbert, A. L. Hunt, C. P. King, H. C. Macatee, W. H. Saunders, D. W. Tastet and H. W. Tobias.

DR. MONTE GRIFFITH died July 11 at his residence at Cherrydale, Va., and Dr. T. C. Smith died at his home in this city July 23. Appropriate action will be taken by the Society when its meetings are resumed. In the meantime biographical sketches will be found as follows: Dr. Griffith, History of the Medical Society, page 366, his halftone on plate 56; Dr. Smith's biography on page 268, halftone in plate 21. Dr. H. C. Duffey died August 10. See History of Medical Society, page 334, halftone, 42.

RECEPTION TO SENATOR GALLINGER.—A reception was given to Senator Gallinger by the Society May 13 at the Cosmos Club.

SARATOGA SPRINGS.—A circular in regard to these springs has been received from the agent of the Publicity Commission, Chas. A. Marshall, address, Saratoga Springs. It appears that the State of New York has taken over the springs and leases them; has spent upon them over a million dollars and Saratoga Springs itself $350,000 to make them useful.

THE WASHINGTON MEDICAL ANNALS for July, 1913, contained a report of a recent conference held under the auspices of the Board of Directors of the Association for the Prevention of Tuberculosis in the District of Columbia, touching the subject of "Hospital Milk."

The following statement incorporated in the minutes of the meeting was inadvertently omitted from the copy of the proceedings furnished for publication:

"*Dr. Skinner*, Superintendent of Columbia Hospital, stated that that institution had used pasteurized milk for seven or eight years. All cream is also pasteurized. Pasteurization should be made in a manner satisfactory to the Health Department."

REDUCED MORTALITY IN PROPORTION TO POPULATION.—Statistics for the last 28 years show that the proportions of mortality to population 28 years ago and at the present day are as follows: Mortality of childhood then to now as 6 is to 4; mortality from typhoid fever then to now as 1.4 to 1; diphtheria, 5 to 1; pulmonary tuberculosis as 10 to 8; cancer has increased. The general reduction of mortality in proportion to population has therefore been reduced in some cases 33, in others 80 per cent.

REGISTRATION OF PHYSICIANS IN 1912.—Graduates of the medical schools in the District of Columbia. The tables published in the *Journal A. M. A.* May 24, 1913, contain the following statements of the results of examination of graduates of the medical schools in this city who were examined in the various States in the year 1912 for registration:

	Total Examined.	Passed.	Failed.	Per ct. of failures.
George Washington University,	47	40	7	14.9
Georgetown University,	26	21	5	19.2
Howard University,	48	35	13	27.1
The following graduated in the period 1908 to 1913:				
George Washington University,	44	37	7	15.9
Georgetown University,	24	20	4	16.7
Howard University,	41	32	9	22
The following graduated before 1908:				
George Washington University,	3	3	0	0
Georgetown University,	2	1	1	50
Howard University,	7	3	4	57.1
The following of 1908–1912 were examined in the District of Columbia:				
George Washington University,	23	21	2	8.7
Georgetown University,	15	13	2	13.3
Howard University,	5	5	0	0
The following of 1908–1912 were examined in the other States:				
George Washington University,	21	16	5	23.8
Georgetown University,	9	7	2	22.2
Howard University,	36	27	9	25

REVIEWS.

THE NARCOTIC DRUG DISEASES and ALLIED AILMENTS; Pathology, Pathogenesis and Treatment. By GEORGE N. PETTY, M. D. Published by F. A. DAVIS CO., Philadelphia, 1913.

The author states it to be his intention to write a book of "an intensely practical nature" and he seems to have succeeded in a considerable measure in doing so. The book, in fact, is of much higher practical than either scientific or literary merit, and it cannot therefore fail in being serviceable to those who are actually engaged in treating cases of drug addiction. The author very properly takes the stand that drug habitues are to be regarded as sufferers from real physical disease which entitles them to sympathetic and rational treatment, but in the present state of our medical science this is a rather trite observation.

His principal thesis appears to be that narcotic addiction is a "toxemia of drug auto—and intestinal—origin," and that the "vital and essential principle of treatment is elimination." These ideas which to the scientific mind are rather vague are by no means original with Dr. Petty, since they have been advanced by numerous predecessors. To the author of the book as to many other systematic writers, or rather writers of manuals upon the subject, "elimination" means purgation, and an apotheosis is consequently made of moving the bowels by means in the present instance of a particular combination of purgative drugs said to be "physiologically balanced." It is needless to say that there is nothing specific in any particular purgative or combination of purgatives in the class of cases referred to, and the intelligent physician may depend entirely upon his general knowledge of the groups of drugs. The same may be said of purgation itself. It is indicated in morphinism because of the paresis of the gut.

The author mentions several drugs and seems to have a just appreciation of most of them. Hyoscin is given a high place, which it deserves, in the treatment of morphinism. The author has a much higher opinion of the value of spartein than the great majority of modern pharmacologists and clinicians. Several chapters are devoted to the work of Ehrlenmeyer, Jennings and Lambert, and the criticisms of the "system" made recently popular by the writings of the last-named author are particularly and scientifically correct where they refer to the belladonna xanthoxylum hyoscyamus "specific" which is nowadays so popular. He speaks highly of ichthyol in the treatment of the gastritis of alcoholics. Williams extols this drug in the treatment of the symptoms of the menopause. A few years ago it was almost a specific for tuberculosis. Ichthyol is one of our notorious "empirical" drugs. It is laughed to scorn by some and extolled to the skies by others. In view of Dr. Petty's experience with it, it should be given more extended trial.

Generally speaking, Dr. Petty's book is readable principally because it represents the work of a man with considerable experience, but it really cannot be said to have contributed anything of importance to our scientific knowledge of these cases and their treatment.—W. M. BARTON.

GOLDEN RULES OF DIAGNOSIS AND TREATMENT OF DISEASES. Aphorisms, Observations and Precepts on the Method of Examination and Diagnosis of Diseases, with Practical Rules for Proper Remedial Procedure. By HENRY A. CABLES, B. S., M. D. 2d Edition. Published by C. V. MOSBY CO., St. Louis. Cloth, 229 pages: price $2.25.

The title indicates the nature and purpose of the book. Its method is to jog the memory of the reader by brief references to the salient characteristics of the various diseases of which it treats, to the diagnostic criteria, including special tests and signs with the mode of eliciting them, and to the general indications for treatment. Under the head of treatment there are given many working formulae for the administration of drugs, so abundantly, indeed, that the book becomes almost a formulary.

In the selection of the topics much necessarily must be omitted in a book of this sort, and, no doubt, the author's powers of discrimination have been taxed in making the selection; but one wonders why under infectious diseases, syphilis, for example, is not included; and why, if aortic, mitral and tricuspid valvular lesions are given place, there is no mention of lesions of the pulmonic valve.

"We do not advocate the substitution of necessarily brief, (*Sic*) epitome for more extensive reading" says the preface. In part the book may serve a useful purpose as a remembrancer to those whose reading has already been somewhat extensive, and it may emphasize the necessity for more extensive reading for others; at the same time there is a large portion that is useless for the one class and a large portion that is unavailable for the other—and these portions are not the same. Quite likely the extensive reading is best for both.

The book is marred by some carelessness of punctuation, as is indicated in the sentence quoted above, and expressions such as "the patient must be in complete *en rapport* with the examiner" are somewhat painful to the critical.—H. C. MACATEE.

RECENT PUBLICATIONS BY PHYSICIANS OF THE DISTRICT OF COLUMBIA.

S. S. Adams: Tumor of cerebellum; *Arch. Pediatrics*, June.

Frank Baker; Faculty of Paris in 17th century; *N. Y. Med. Jour.*, July 19.

F. M. Barnes; Hallucinations in paralysis; same journal, June 28.

W. M. Barton; Potassium permanganate as a local anesthetic to the genito-urinary mucous membrane; *Jour. A. M. A.*, July 19, page 196.

W. C. Borden; Complete non-descent of colon and cecum; *Va. Med. Semi-Monthly*, April 11, page 1; abstracted in *Jour. Med. Soc.*, N. J., July, page 75.

N. DuV. Brecht; Suggested improvement in Allis ether inhaler; *N. Y. Med. Jour.*, July 19.

W. P. Carr; Operation for flatfoot; *Amer. Jour. Surgery*, July, page 270.

E. P. Copeland; Cases of congenital syphilis; *Va. Med. Semi-Monthly*, July 11, page 176.

C. F. Craig, U. S. A.; The interpretation of the Wassermann test; *Jour. A. M. A.*, Feb. 22, page 565; abstracted in *Mo. Cyclop. and Med. Bull.*, June, page 367.

L. C. Duncan, U. S. A.; The bloodiest day in American history, Antietam; *Military Surgeon*, May.

F. R. Hagner and H. G. Fuller; Postoperative complications of prostatectomy; *Surg. Gynec. and Obstet.*, July.

H. H. Hazen; Anomalous case of white spot disease; *Jour. A. M. A.*, Aug. 9, page 393; also Oily injections of salvarsan; *Jour. A. M. A.*, May 24; abstracted in *Mo. Cyclop. Med. and Surg.*, July, page 423.

T. Knab; Species of anopheles that transmits human malaria; *Amer. Jour. Trop. Dis.*, July 1; abstracted in *Jour. A. M. A.*, June 7, page 1822.

L. Kolipinski; The treatment of pneumonias with mercury and sulphur internally; *Mo. Cyclop. Med. and Surg.*, July, page 398.

A. J. McLaughlin, U. S. P. H. S.; Sewage pollution of interstate and international waters, etc.; Hygienic Laboratory; Bull. 89, May, 1913.

G. L. Magruder; Solution of the milk problem; review i; *Va. Med. Semi-Monthly*, July 11, page 179.

L. Neuman and E. B. Behrend; Modification of Russo's test for typhoid fever; *Arch. Inter. Med.*, April; abstracted in *Mo. Cyclop. Med. and Surg.*, July, page 429.

H. J. Nichols, U. S. A., and W. H. Hough; Positive results following the inoculation of the rabbit with paretic brain substance; *Jour. A. M. A.*, July 12, page 120.

Mary O'Malley; Psychoses following carbon monoxid poisoning, with complete recovery; *Amer. Jour. Med. Sci.*, June.

E. B. Phelps; Chemical measure of stream pollution and specifications for sewage effluents; *Amer. Jour. Pub. Hlth.*, June.

C. W. Richardson; Complications of operations for removal of tonsil; *Laryngoscope*, June.

J. J. Richardson; Aural affections dependent upon visceral lesions and functional nervous disorders; U. S. Naval Med. Bull., July, page 339.

W. Rose; Sanitary survey; *Amer. Jour. Pub. Hlth.*, July.

P. S. Roy; Shrines, relics, incubation and amulets in medicine; *Old Dom. Jour. Med. and Surg.*, July, page 4.

F. F. Russell, U. S. A.; Immunization against typhoid fever; *Long Island Med. Jour.*, July, page 286.

J. H. Spurr; Convenient anerobic jar for plate cultures; *Amer. Jour. Pub. Hlth.*, July.

E. R. Stitt, U. S. Navy; Value of course in tropical medicine for training of internist; *Amer. Jour. Trop. Dis.*, July; abstracted in *Jour. A. M. A.*, June 7, page 1820.

C. F. Stokes; How can a surgeon in civil life best serve his country in time of war; *Surg. Gynec. and Obstet.*, July.

G. T. Vaughan; The arrest of hemorrhage from bone by plugging with soft tissues; *Annals of Surg.*, March; abstracted in U. S. Naval Med. Bull., July, page 443.

F. C. Walsh; Unusual condition causing impotence in the male; *Amer. Jour. Urology*, May.

M. I. Wilbert; Carelessness in pharmacy as a reason for a restricted materia medica; *Jour. A. M. A.*, July 19, page 189.

W. W. Wilkinson; Defensive elements of the body; U. S. Naval Med. Bull., July, page 381.

P. Willson; Eclampsia a toxemia of possible mammary origin; *Amer. Jour. Obstet.*, June; abstracted in *Jour. A. M. A.*, July 26, page 306.

Proceedings of Med. and Surg. Soc., D. C.; *Va. Med. Semi-Monthly*, July 11, page 177.

PERSONAL NOTES.

H. P. Birmingham, Colonel, M. C., U. S. A., transferred to Fort Slocum, N. Y.

C. D. Buck, Major, M. C., U. S. A., ordered to Washington Barracks.

H. C. Fisher, Lieut. Col., M. C., U. S. A., detailed to the command of the Walter Reed Hospital.

J. W. Kerr, Asst. Surg. Gen., U. S. P. H. S., detailed to inspect laboratories in England and Germany; also a delegate to International Conference on Infant Mortality, London, and the International Medical Congress, London.

C. H. Lavinder, Surgeon, U. S. P. H. S, detailed to collect data and material in regard to pellagra in Georgia and South Carolina.

The wife of Dr. G. J. Lochboehler died in this city July 5.

L. L. Lumsden, U. S. P. H. S., detailed to investigate the occurrence of typhoid fever in some rural districts of Virginia.

W. J. L. Lyster, Major, M. C., U. S. A., ordered to the Army Medical School as professor of military surgery.

C. C. McCulloch, Jr., Lieut. Col., M. C., U. S. A., detailed as Librarian of the Surgeon General's Office.

R. J. Metcalfe, Major, M. C., U. S. A., ordered to duty in connection with Attending Surgeon in Washington.

R. B. Miller, Major, M. C., U. S. A., detailed to the Army Medical School as Professor of Sanitary Chemistry.

C. R. Reynolds, Major, M. C., U. S. A., transferred to Fort Sam Houston, Texas.

T. L. Rhoads, Major, M. C., U. S. A., ordered to Philadelphia as Attending Surgeon.

J. J. Richardson and D. K. Shute request that the ANNALS state that they "have no connection whatever with the Washington Eye, Ear and Throat Charity Hospital, recently opened. Our names have been used as consulting surgeons to the institution without our authority or consent."

P. S. Roy delivered the address before the graduating class of nurses of the George Washington University, June 6.

W. C. Rucker, Assistant Surgeon, U. S. P. H. S., detailed to represent the service at the Conference of Health Officers of Vermont at Burlington, Vt., August 4 to 7.

F. A. Winter, Lieut. Col., M. C., U. S. A., transferred to the command of the Army and Navy General Hospital, Hot Springs, Ark.

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WASHINGTON
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DIET IN GASTRIC ULCER AND HYPERCHLORHYDRIA. ABSTRACT.*

By John B. Nichols, M. D.,

Washington, D. C.

A prominent factor in the causation of ulcer of the stomach is the digestive power of the gastric juice. A primary indication in the treatment of this condition therefore is the reduction to a minimum of the peptic power of the gastric secretion, and the diet should be arranged to this end. As secretion of gastric juice normally occurs only when food is present in the stomach, the intervals between feedings should be made as long as possible, in order to secure long periods of freedom from the action of the juice on the ulcer. It is not a disadvantage if the food is not especially appetizing, as thereby the primary psychic excitation of gastric secretion is lessened. Those foodstuffs which effect an active flow and potency of gastric juice should be eliminated from the diet, namely water in copious quantities, meat extractives, meat, caffein, etc.; while those articles which are indifferent, or which lessen gastric secretion, as carbohydrates, alkalies and fat, should predominate in the diet. From its marked inhibitory power on gastric secretion, its high nutritive value, its relaxing effect on pyloric spasm, and its laxative action, fat seems preëminently adapted to the dietetic treatment of gastric ulcer and hyperchlorhydria, and these considerations constitute the grounds for the use of the fatty diet, which within the past few years has been employed to a limited extent. There are two chief methods of employing fat in this condition, the giving of about an ounce of olive oil half an hour before meals, or the use of cream as the main component of the diet. The actual employment of the fatty diet, along with the usual concomitant hygienic and medicinal measures, has yielded satisfactory results, and seems a promising method of treatment for gastric ulcer.

Dr. Roy said that Dr. Nichols had mentioned the fact that a quart of cream will afford the consumer 1800 calories, but it is also necessary to bear in mind that this quantity of cream contains

* Read before the Medical Society October 1, 1913.

only about fifteen grams of proteid, and in time more proteid must be added to the diet, notwithstanding the fact that the fat will to some extent protect the body proteid; when the necessity for more proteid appears, a few eggs, added to the cream, will best furnish the forty-five grains of needed proteid. Aside from this remark he could heartily agree with everything that Dr. Nichols had said.

Dr. Jack said that his personal experience abundantly verified Dr. Nichols' claims for the cream diet in gastric ulcer; Dr. Jack had been cheated out of six good operations by the patients getting well under this regime.

Dr. Verbrycke asked how often Dr. Nichols administered the food with the cream diet. Dr. Verbrycke asked the question because stress was laid in the paper upon the desirability of infrequent feedings. He called attention to the fact that in gastric ulcer there is a continuous secretion of acid going on, and in view of this it seemed to him allowable to feed frequently. He had recently read a paper by Senator which stated that the author fed fat in the form of frozen butter balls. Personally Dr. Verbrycke had had better results from the employment of the Leube treatment.

Dr. Frankland said that the paper pointed definitely to the modern trend toward the use of foods as medicines; from the paper it may be seen that many foodstuffs do have specific medicinal effects. The disagreeable symptoms arising from the lipolysis may be somewhat offset by early adding cereals and bread to the dietary; it has been shown that bread noticeably decreases the flow of gastric juice. He suggested that the infrequent feedings might have the effect of inducing a psychic flow of gastric juice under the influence of hunger.

Dr. Mallory said that of the food elements to be omitted from the dietary in gastric ulcer, raw meat should be one, although it is included in several of the older dietaries, and forms one of the items in the Lenharz list. Dr. Mallory called attention to the importance of limiting or omitting sodium chlorid from the diet in peptic ulcer.

Some of the disagreeable symptoms observed in the fat diet may be due to inhibition of the motor function of the stomach with consequent food retention. When milk is employed in the dietary it may be best given in the form of junket, to avoid the formation of large curds which, when retained, may cause trouble.

Dr. W. P. Carr asked how long Dr. Nichols would keep a patient on this very restricted diet. Sometimes the limitation of diet is kept up too long; Dr. Carr had observed at operations upon patients who had been for a long time on a restricted diet, that the stomach and intestinal walls may be much thinned, almost attenuated, from insufficient nourishment.

Dr. Nichols said that Dr. Roy's point was well taken as to the low protein content of cream; if additional protein is needed,

however, other articles may be added. In reply to Dr. Verbrycke, Dr. Nichols said that it was his custom to divide the daily ration of cream into three or four feedings. With respect to the continuous secretion of acid in gastric ulcer, frequent feedings will not diminish this, but will increase the digestive acid. The fatty-acid dyspepsia which may be observed with the cream dietary is at times troublesome, but in most cases will entirely disappear in a week and will not reappear. At first the total acidity is high, but the hydrochloric acid is low ; the fatty acids causing the high total acidity. Complete tolerance of the fat is established later. Ulcer cases do not usually have enough appetite to make the question of psychic gastric secretion of any importance. There is authority for the statement that an increase of sodium chlorid in the food is not attended with any increase of secretion of hydrochloric acid in the gastric juice. Diminished motility does occur with the cream diet, and this feature has to be kept in mind. The food value of cream is high, small quantities are sufficient to keep up nutrition, and the diet is not a restricted one.

OBSTRUCTIONS ABOUT THE PYLORUS.*

By J. Russell Verbrycke, Jr., M. D.,

Washington, D. C.

In bringing this subject to your attention the writer wishes to lay especial stress upon the Roentgen ray in the diagnosis and to emphasize several points which have been brought out by radiographic study. The first point is the fact that partial obstructions quite marked in character may exist without giving frank symptoms of obstruction, their diagnosis being only made certain by the x-ray examination. A second point is that while obstructions are considered surgical and operation tends to become more imminent as time progresses, still it is surprising to note the degree of obstruction, as evidenced by the radiograph, which an individual may have, and still go about without operation, keeping up a fair state of health. I shall later show you several slides of cases in which operation was urgently advised but refused, the patients being apparently not much worse off now than before.

Obstruction at or near the pylorus may be organic or functional, being very often both. The most frequent organic obstructions are due to gastric or duodenal ulcer, producing adhesions or cicatrices ; cancer, adhesions about the pylorus and gallbladder following infection (Morris' cobwebs in the attic of the abdomen); and gastro-mesenteric ileus produced by constriction of the duodenum by tension on the mesenteric vessels.

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* Read before the Medical Society October 15, 1913.

Pylorospasm is a functional disturbance producing closure at the pylorus. Spasms are not limited to the pylorus, however, as we see instances of spastic contraction of the stomach a short distance from the pylorus and also of the whole first part of the duodenum.

By far the most common cause of pylorospasm is ulcer, but it can occur in appendicitis and gallbladder infection, as will be seen in a picture of an interesting case which will be seen later. It is also a rare, simple, nervous affection. A small pinhole ulcer near the pylorus is capable of producing the most intense spasm, and such a condition is exactly analogous to that found in fissure of the anus. Congenital obstructions have been purposely omitted from this paper.

The symptomatology of pyloric obstruction is variable. As has been mentioned, some patients with marked lesions do not vomit, while others vomit with but slight obstruction. Pain is usually present, but is of variable intensity and it is at times difficult to distinguish it from that caused by the original lesion. It is typically, however, of a cramp-like nature, worse when the stomach is making violent efforts to empty itself.

Symptoms usually present, but not in the least pathognomonic, are constipation; loss of weight, loss of appetite, increased thirst, oppression and fullness in the epigastrium, and belching or eructation.

Shortly after the obstruction begins to develop, the symptoms are apt to be intermittent. Pyloric spasm generally adds to slight obstructions brought about by other agencies, and, as this condition is not constant, in the intervals of its absence the stomach is able to empty itself fairly well. Then again the muscles of the stomach at first are apt to become hypertrophied and a certain amount of compensation be established. In this stage the patient may partake of small meals without trouble, but when the stomach is overloaded it becomes fatigued in its efforts to empty, and there is resultant food retention. For this reason examination after a Ewald test-breakfast may show apparently good motility, while lavage a number of hours after a full meal may disclose considerable food residue.

Marked cases, with ischochymia, offer no difficulties of diagnosis. Vomiting and pain are nearly always present, although there are instances in which the stomach is never entirely empty, and yet in which the patient has not vomited. The vomitus is apt to be in large amount and contain food remnants which have been eaten hours or days before.

Raisin seeds or rice eaten the night before will be recovered from the stomach by lavage in the fasting condition in the morning. The stomach is much dilated. Peristaltic waves are often visible on inspection. The pylorus may be palpable. The stomach content nearly always is of high acidity, either hydro-

chloric acid, lactic acid or fatty acids. Bile is not uncommonly found and is more apt to indicate an organic obstruction than a spastic condition; in other words, while the aperture is narrowed, it can not completely close, and bile is regurgitated. The thread test shows that the bucket does not pass the pylorus. The degree of the stricture can be accurately determined by the Einhorn pyloric dilator in those cases in which it can be passed through the opening.

As is usual in nearly all troubles, it is the early stages of obstruction which offer the greatest difficulties in diagnosis. Not only is the condition less marked, so that it is not always easy to differentiate from simple atony, but the symptoms of the underlying causative condition may overshadow other symptoms.

It is not within the scope of this paper to differentiate between the various maladies producing obstructions about the pylorus excepting to mention a few of the most important points. Examination of the stool in cancer and active ulcer reveals positive tests for occult blood, constant in the former and intermittent in the latter. The finding of lactic acid in the stomach contents is more apt to indicate cancer, but its absence does not militate against the diagnosis. Sarcinae, supposed to show that an obstruction is benign, have been rarely found by the writer.

Obstruction developing rather soon in the illness of one about 40 or over and who has had perfect digestion until a few months previously, is almost certainly due to primary cancer.

Obstruction due to the results of disease as adhesions, cicatrices, etc., are best shown by the radiograph. We can only suspect after a careful study of the patient's history what might have been the etiological factor.

The symptoms of obstruction due to gastro-mesenteric ileus will be relieved by a knee-chest position.

We now come to a consideration of the x-ray diagnosis of the presence of obstruction, the probable variety, spastic or organic, the probable cause and the extent. I shall not endeavor to go into the technique of taking the radiographs, but will simply give a few of the findings. It is not always an easy matter to interpret the pictures. Even those of great experience are at times at a loss, but it may be said that the results are in proportion to the experience. However, any one can see that the presence of bismuth still in the stomach six hours after the bismuth meal, is indicative of some impediment to its outlet, if bismuth acts in the stomach the same way as does food.

One method used in gastro-intestinal disease is called serial radiography. Several pictures are taken immediately after the ingestion of the bismuth meal, in the standing and recumbent positions, and others at intervals for 24 hours or longer. The first pictures serve to demonstrate the size, shape, tonicity and position of the stomach. There is no one type of normal stomach,

but, on the other hand, four main types have been described, of which I shall show you several slides in order that you may see how different the stomach appears in different individuals, and will point out on these pictures the important points to be studied.

The duodenal cap or first part of the duodenum has all the characteristics of part of the stomach, rather than the gut, and its study is most important. It takes its name from the appearance of a bishop's cap above the pylorus. It is separated from the stomach by the pylorus, which should normally present a certain clean cut appearance. Peristaltic waves are to be noted, making marked indentations in the stomach, and they will appear in different positions in the various pictures, and so do not confuse, as might be the case with a single exposure.

All obstructions show the bismuth meal remaining in the stomach an undue length of time. Any residue in the stomach after six hours has been considered pathological. Bassler, however, states that during the past year he has had over 100 cases showing from six to seventeen-hour delays in the exit of the bismuth in which there was no delay in food exit, and claims that undoubtedly the normal stomach can hold bismuth longer than food. We are by no means sure of all of our ground as yet in the radiographic findings of the digestive tract, but are steadily learning. My limited personal experience has been that a six-hour residue of bismuth is indicative of something wrong, whether or not food stasis is present.

The various forms of obstruction can be diagnosed by the expert with some degree of certainty. I do not pretend to be an expert, but have acquired enough of an insight into the subject to be able to understand the radiographic points in the picture as they are pointed out to me by Captain Christie, U. S. Army, who has taken all of my late pictures. I then review the clinical side of the case and compare the findings. As a rule there is no conflict, but the radiograph confirms and amplifies the clinical diagnosis or reveals something which has been missed. If there should be a conflict, both sides should receive consideration in advising the patient.

I shall quote largely from Cole, one of the most eminent authorities in giving the x-ray characteristics of the various obstructions. Cancer is shown by a growth encroaching on the lumen with projections into the surrounding tissue giving a characteristic finger-print appearance. The constricted area is more or less constant in size, shape and position and is devoid of peristaltic waves or rugae.

Hour-glass constriction is demonstratable only by the radiograph. It is in appearance what would be expected—two parts of the stomach connected by a narrow ring, the constriction having clean cut edges. It is constantly present in all the pictures and is most apt to be not very far from the pylorus. It may be necessary to take pictures in various positions, as occasionally a dilated,

flabby stomach will be divided into two parts by lying across the spine as a partly filled bag over a fence.

Adhesions about the pylorus, according to Cole, are indicated by the following conditions: The lumen of the affected area varies in diameter but never dilates to normal size. The rugae show with unusual distinctness and usually run diagonally or transversely. Peristaltic waves, while clear in the normal part of the stomach, either cease or are distorted when they reach the adhesions. The duodenal cap is constricted, asymmetrical, displaced or absent. The pylorus is not clean cut and is distorted in shape. The second and third part of the duodenum are angular or contracted. If there are adhesions of the lesser curvature, peristalsis ceases at this point and that on the greater curvature becomes deeper.

Cicatrices or localized adhesions at the pylorus produce a typical undershot appearance of the *pars pylorica* caused by the stomach pushing itself about the unyielding pylorus. Atony gives general enlargement of the stomach and possible prolapse of the pylorus but not the undershot appearance.

In conclusion it may be stated that radiography is probably that most valuable single means at our disposal for the diagnosis of obstructions about the pylorus, but that its findings should be considered with the clinical findings, and if at variance with all of the many clinical tests, should not be accepted as final.

A clinical diagnosis should always be made before radiographic study. Do not take a patient to the radiographer with a diagnosis of "stomach trouble" and expect him to render the exact diagnosis.

I will now present a few illustrative slides and attempt to show the important points. I wish here to express my indebtedness to Captain Christie for his help and unfailing courtesy and for the loan of some of his slides showing conditions not found in my own collection.

Dr. Groover was especially interested in the paper from the standpoint of the x-ray study of such conditions. This work is attracting much attention at the present time, and it seemed to him necessary to sound a note of warning that this work is altogether pioneer work, and that several years will have to elapse before we may arrive at a firm basis for opinion. Many x-ray workers disagree with Cole's work. Dr. Groover inquired what Dr. Verbrycke regarded as a typical picture of pyloric obstruction? His own experience was that things are not always what they seem in x-ray plates. In pyloric obstruction there may be gastric incontinence and not retention. He did not regard six hours retention of bismuth a sufficient basis for a diagnosis of gastric retention of food.

Dr. Mallory said that the apparent disharmony between the

opinions of Drs. Verbrycke and Groover may be accounted for and somewhat compounded by allowing for the different viewpoints of the two men doing different lines of work. The gastrologist approaches the subject from the standpoint of the lesion, and Dr. Verbrycke had shown how radiograms may indicate the existence, location, and sometimes the characteristics of the lesion. Dr. Groover seemed to speak from the viewpoint of making an actual functional estimation by means of the x-ray. Dr. Mallory agreed with Dr. Verbrycke upon the importance of making a provisional diagnosis before the x-ray is called into the problem, and cited a case which had given clinical evidences of pyloric obstruction; the x-ray indicated that there was none, and the cause of the trouble was found to be a gallstone lodged in the common duct.

Dr. Verbrycke agreed with Dr. Mallory that he and Dr. Groover evidently look at this matter from different points of view, but do not differ much fundamentally after all. The matter is in its infancy; but there are some appearances that are quite characteristic and are dependable.

THE SERUM TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.*

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Epidemic cerebro-spinal meningitis is an infectious disease caused by the meningococcus of Weichselbaum, characterized anatomically by an inflammation of the meninges of the brain and spinal cord and clinically by an irregular course, a moderate febrile movement, with somewhat characteristic and profound nervous symptoms.

The disease is one of the most serious of the acute infections, the mortality before the introduction of the serum treatment varying from 25 per cent. in the mildest epidemics to about 75 to 80 per cent. in the more severe. It is more commonly a disease of childhood and youth, and up to a few years ago was viewed by clinicians all over the world with the greatest apprehension, for no therapy lessened its severity or reduced its fatality.

The first authentic report was of an epidemic occurring in Geneva in 1805, described by Vieusseaux. Since that date the malady has been widespread. Severe epidemics have occurred in England, Germany, France, Holland and the United States. The disease first appeared in this country in 1806, when an epidemic occurred in the State of Massachusetts. The disease was

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especially severe in Philadelphia and the State of Pennsylvania generally from 1863 to 1865, in Maryland in 1892, and in Boston in 1897. It raged with great violence in nearly all the countries of Europe from 1814 to 1868. The largest and most widespread epidemic occurred in New York in 1904. An epidemic of moderate severity has but recently appeared in the States of Texas and Louisiana. America and Europe have suffered greatly from its inroads, and the United States has suffered quite severely from numerous epidemics which have been more or less scattered throughout the States. As Koplik puts it "America seems to be the home of the disease, but it is difficult to account for this fact."

From 1805 to 1905 the treatment was most unsatisfactory, merely empirical and symptomatic. Drugs were futile in limiting the severity or in any way modifying the course. Patients passed through the illness purely dependent upon their own resistance, and nature was allowed to wrestle with the disease unaided. At times certain drugs were lauded, but it appears that their good effects were due more to the avirulence of the infection and resistance of the host than to any specific action of the therapy. No measure seemed to have any effect; meeting with a degree of success in one epidemic, it would fail hopelessly in another. Hot baths relieved the restlessness; morphine, chloral and bromides relieved the pain, hyperaesthesia and headaches; but no measure seemed to exert any influence upon the exciting cause of the infection.

In 1891 Quincke introduced lumbar puncture. Hopes were raised only to fall again, for although a procedure affording temporary relief and improvement and in some cases even saving life, it failed to meet the demand for a specific. It opened, however, a new field for treatment, and various antiseptic solutions were injected into the spinal canal in an effort to destroy the invading organisms. A Portuguese suggested the injection of a weak solution of lysol subdurally. This was tried in this country as well as abroad, but after repeated failures was discontinued. Colloidal silver and cyanide of mercury were also used in the same manner, but with like results. Diphtheria antitoxin was even given a trial and was first used in Hartford, Conn. Selected and employed in an empirical manner it could only meet with failure, and Netter, the French authority, found the evidence incontrovertible against its use and efficacy.

Blood letting, local depletion, purges, emetics, mercurialization were all given a trial, but discontinued.

The situation seemed hopeless and clinicians everywhere awaited the discovery of a specific. Only about seven years ago an editorial appeared in the *Journal of the American Medical Association*. "Little is to be hoped directly for treatment. There is no specific. The future may develop an antitoxin, but under

the most favorable circumstances it is more liable to have a prophylactic than curative value."

In 1887 Wiechselbaum discovered the exciting cause of the disease, the "diplococcus intracellularis meningitidis." The organism fulfilled the requirements of specificity laid down by Koch, and in the pandemic occurring in Europe and America in 1904 to 1909 was proven beyond a doubt to be the real and only cause of the disease.

Practically from this date the search for an antiserum began. Workers in different parts of the world began their experiments independently of one another and by strange coincidence announced their results practically at the same time. Kolle and Wassermann, working in Germany, announced the result of their experiments and the production of an antiserum in 1906. In the same year Jochman, in France, announced that he was getting good results from a specific serum. These men all gave their serum subcutaneously at first but later changed to the subdural route with much better results.

In 1904–5 the great epidemic swept New York, and the Board of Health of New York City appointed a commission to study the properties of the diplococcus toward the end of developing an antiserum. Flexner was on this commission. He set about his task with the idea that an experimental basis should be sought upon which the employment of an antiserum in man might ultimately come to be of value. He found that monkeys of the lower species could be infected with the diplococcus and an acute inflammation of the meninges result, corresponding pathologically, and in many instances symptomatically, with the disease in man. He reasoned that a serum modifying or curing the infection in monkeys ought to be of value in the treatment of the disease in man. The perplexing problems presenting themselves were solved one by one, and in 1906 he sent out his serum to the profession for a trial. It had been given subdurally to monkeys infected with the meningococci and favorably influenced the course of the disease; would it be of value in the treatment of the infection in man if given in the same manner? With the answer which came back you are all more or less familiar. The average mortality was reduced from approximately 70 per cent. to about 30 per cent.; the course of the infection shortened; symptoms were lessened in severity; recovery hastened, and sequelae prevented in a large percentage of cases.

Continued use of the serum since its introduction has substantiated these early reports. The serum greatly improves the mental condition, consciousness is cleared and patients often return from a comatose or delirious condition to a rational mental state within a few hours. Headaches are less distressing and pain in the back and neck is greatly relieved. In the majority of cases there is a gradual amelioration of symptoms with decline of the tempera-

ture by lysis. In about 30 per cent. of cases, however, mostly those in which the serum has been given early, the termination is by crisis, a sudden cessation in all symptoms and drop in the temperature. The last signs to disappear are rigidity of the neck and Kernig's sign. These may persist well into a convalescence. Deafness seems to be the only troublesome sequela.

Of course the most striking and positive indication of the efficacy of the serum is the reduction of the mortality. Before 1906 the lowest death rate in any one year was 58 to 80 per cent. At present the average mortality is about 30 per cent. The highest mortality occurs in infants and adults. Holt reported a mortality of approximately 100 per cent. in children under two years in the New York epidemic, and Flatten's figures, based on the Silesian epidemic, are practically the same. Flexner, reporting 712 cases in 1909, states that the mortality of children under two years in his series was reduced from 90 to 42.3 per cent. The mortality rate of adults over twenty was 39.4. It is difficult to explain this high mortality of adult cases. It may be due to the virulence of the infection, or adults may not be so susceptible to the action of the serum. Flexner's latest and final report analyses 1294 cases and records the mortality at 30.9 per cent. In 216 cases under two years of age the mortality was 40.2 per cent. The mortality in adults over 20 years was 37.5 per cent. He states the most favorable age for the occurrence of the disease is from five to twenty years, the mortality being high in cases under five and over twenty years.

Certainly no more brilliant achievement has been made in the advancement of sero-therapy than the development of this serum—equalled only by the introduction of diphtheria antitoxin. Observers all over the world have used the serum and the results reported are more or less uniform.

Flexner's serum is bactericidal in its action and must be brought into direct contact with the meningococci in the spinal canal and ventricles of the brain in order to be of value. All are now agreed that the serum should be given by lumbar puncture into the spinal canal. Kolle, Wassermann and Jochman at first used their serum subcutaneously but later advocated its subdural injection with much better results. They knew little of its action and its employment was purely empirical. Flexner, however, knew the action of his serum and its effect, and from the first advocated and directed its subdural injection.

The serum acts directly upon and inhibits the growth of, or destroys outright the meningococcus. It has the property of increasing phogocytosis and promoting intracellular digestion of the diplococcus and also possesses the power of neutralizing the soluble toxic products set free by disintegration of the meningococci. The action of the serum depends largely upon its degree of concentration.

Recent experiments have revealed different strains of the organism, some of which are resistant to the action of the serum. The serum does not seem to promote phagocytosis in these cases—the meningococci remain free in the cerebro-spinal fluid. These organisms are therefore called serum-fast. In some cases the meningococcus develops or acquires a serum fastness yielding to the action of the serum during the primary attack, yet remaining uninfluenced during a relapse. Some strains are uninfluenced from the first. This property of serum fastness may, according to Flexner, account for those cases in which the serum treatment seems to have little or no effect. It is to be hoped that later a serum will be developed which will favorably influence these forms and thereby reduce the mortality still lower.

The serum is difficult to standardize on account of its being bactericidal and anti-endotoxic. The method used in standardizing an antitoxic serum is not applicable. Flexner determined its strength, however, by using its opsonins as an index of activity, and Jobling has worked out this method. A suitable standard opsonic strength for such a serum is that in which a dilution of 5,000 times shows a degree of phagocytic activity exceeding that noted in the saline controls, viz: those to which no serum has been added. All the serum is standardized in this manner—so its strength as well as its action are assured.

Early injection is most important in every case in order to secure the best results, and lumbar puncture should be performed in every case of suspected meningitis in order that the nature of the infection can be definitely determined and proper treatment instituted. According to Flexner in his last report less than $\frac{1}{6}$th of the cases analyzed (1211) received the benefit of the early injection. He records the mortality of cases receiving serum from first to third day at 18.1 per cent., from fourth to seventh day at 27.2 per cent., and later than the seventh day at 36.5 per cent.

Surely this is a strong plea and argument for early diagnosis and treatment. If lumbar puncture is not performed, many cases will escape until too late for treatment.

Lumbar puncture, besides being of great diagnostic value as well as serving for the introduction of serum, is also a valuable therapeutic measure in itself. It relieves excessive intracranial pressure, as well as removes toxic material and organisms from the spinal canal. In some cases it is a life saving measure, and should certainly be performed without hesitation in all cases where inflammation of the meninges is suggested or suspected. In this way also can epidemic cases be recognized early and patients be given the benefit of an early injection of serum. In other varieties of meningitis the simple withdrawal of the cerebro-spinal fluid may cause marked improvement and ultimate recovery.

The following case will serve as an illustration of the value of the procedure.

Colored boy, age 4. Admitted to Children's Hospital. Taken suddenly sick in the morning with fever, convulsions and loss of consciousness. Was unconscious when admitted in the late afternoon, and on examination showed clinical signs and symptoms of meningitis. The temperature on admission was 99.6, but in a short time rose to 104.4; lumbar puncture was performed 2½ hours after coming to hospital and 40 c.c. of clear fluid withdrawn under great pressure. The child regained consciousness during the night and the temperature had fallen to 100 on the following morning. The child made a rapid recovery and after being observed for a period of two weeks was discharged cured. Examination of fluid was negative for organisms. This case was probably one of Quincke's Serous Meningitis.

Souther, in the *Lancet-Clinic*, reports a case of a girl, age 6 years, in which two lumbar punctures were made and purulent fluid obtained which showed meningococci on examination. Serum was unobtainable but the child's condition improved greatly after puncture, and recovery was prompt. In this case the removal of cerebro-spinal fluid containing large numbers of organisms and toxic material was sufficient to turn the tide and make possible her recovery.

In most cases of epidemic meningitis the cerebro-spinal fluid withdrawn at puncture is turbid or cloudy, and such a finding is a positive indication for using the serum. Do not wait for bacteriological examination of the cerebro-spinal fluid, inject at once. If subsequent examination of the cerebro-spinal fluid fails to show the meningococcus, further injections can be discontinued.

All patients should be given the benefit of every doubt, and as Flexner's serum at the present time is the only agent of real value in any form of meningitis it should be used whenever the possibility of meningococcus infection is thought to exist.

During the first 24 to 48 hours the spinal fluid is often clear, and it is in these early cases that the best results are obtained from the serum treatment. Later, as mentioned, the fluid becomes turbid or cloudy. In those cases in which clinical evidence favors a diagnosis of epidemic meningitis, it is well to give the serum, even though the cerebro-spinal fluid is clear, discontinuing its use if bacteriological examination of the fluid fails to reveal meningococci. Especially does this apply to such cases occurring during epidemics of the disease. Bradley and Netter report cases which have been aborted by the early use of the serum.

The following case I desire to report in this connection:

White boy, age 7 years, admitted to Children's Hospital. The history was that the child had been complaining of muscular pains and twitching of muscles of face. Pain in head, no convulsions, very restless. These symptoms followed shortly upon an attack of measles. The family and previous history was negative—the boy had always enjoyed good health.

On admission he showed signs of meningeal irritation. Temperature 99, rising to 102 next day. The hydrocephalic cry was marked in this case, the pain in the head being severe. Kernig and Babinski signs were present and the picture presented was typical of meningitis.

Lumbar puncture first was done the day after admission, and 30 c.c. of clear, watery fluid obtained under increased pressure. No marked change followed this procedure. On the following day, the hydrocephalic cry continuing, the temperature being moderately elevated, and the child's condition apparently hopeless, another puncture was made and 3 c.c. of slightly turbid fluid withdrawn ; 25 c.c. of serum were injected.

Following this injection the child's condition slowly improved. Temperature returned to normal, hydrocephalic cry lessened and disappeared, and a complete recovery was made. The improvement was slow but it was equally sure, and a case that at first was viewed as tubercular with fatal prognosis left the hospital entirely well.

No diplococci were found in the cerebro-spinal fluid on examination, so I cannot report the case as bacteriologically one of Epidemic Meningitis, but I ascribe this to a decidedly incomplete examination of the fluid. One thing though is sure—the entire clinical picture changed for the better after the serum was administered.

As much cerebro-spinal fluid as possible should be withdrawn at each puncture unless untoward symptoms arise. In this way large numbers of cocci are removed and large quantities of toxic material eliminated. Dilution of the serum is also prevented and the flow of serum to the brain is also aided. Large quantities of fluid are sometimes withdrawn. Stevens reports a case in which 105 c.c. were drawn off at one puncture. In some cases only a small quantity is obtained and dry taps are also made at times. Wesson reports a case occurring in the recent Texas epidemic in which dry taps were gotten six days in succession, yet serum was given each time and the baby recovered. Dry taps are, however, the exception, and frequent trials should be made before being contented with a dry tap.

As to the quantity of serum to administer no fixed rule can be laid down. As in the use of all sera the requirements of the individual case control the dosage. Dunn, of Boston, advocates the giving of as much serum as will enter without undue resistance. At least 30 c.c. should be injected if possible. In some cases 40 c.c. may be given. In fulminating cases 30 to 40 c.c. should be administered regardless of the quantity of cerebrospinal fluid withdrawn unless undue resistance is encountered or unless pressure symptoms arise. It may be necessary to repeat the injection of serum within 24 hours in these severe or fulminating cases. Flexner, in a recent article, states that the risk of

producing a dangerous increase in intracranial pressure from the injection is so small as to be negligible, especially if fluid is first withdrawn. He further states that even if an obstructive lesion exists and no fluid can be obtained on puncture, it may still be safe to make an injection. The quantity of fluid withdrawn bears no relation to the quantity of serum injected, but as a rule the latter should be smaller.

The serum should always be warmed to body temperature and given either with a syringe or by gravity method. The gravity method has the advantage of preventing too great or too sudden increase in intracranial pressure.

The frequency of injections is dependent upon the course of the particular case under treatment. Dunn says to give the serum by daily injections on four successive days in an average case or until the diplococci disappear from the cerebro-spinal fluid. It seems, however, by considering the temperature curve and general symptoms of the patient, that a better idea is gotten as to how often to give the serum. Let the dose produce its maximum effect before reinjecting. If symptoms are increasing or remaining stationary another injection should be given without delay.

Several cases treated at the Children's Hospital have recovered with a less number of injections, and these were not made daily. One case had the puncture performed on the day of admission, 3 ounces of cloudy fluid were removed and 30 c.c. of serum injected. Two days later another puncture was made, 1½ ounces of fluid was withdrawn and 30 c.c. of serum injected. Case recovered, temperature dropped to normal from 102.4 after first dose of serum and did not rise above 100 afterward. Another case received two 40 c.c. injections. The first was given on day of admission and the second about 48 hours later. Good recovery. The case was one of moderate severity, the temperature ranged from 100 degrees to 103.4 degrees. One case was admitted with temperature 102.8 degrees, lumbar puncture was performed and 36 c.c. of clear fluid removed under very slight pressure, 30 c.c. of serum were injected. The temperature promptly dropped to normal, and child made good recovery without further administration of serum. This was evidently an early case. The meningococcus was found in all of these cases on examination of the cerebro-spinal fluid.

These cases show that it is not always necessary to subject a patient to four daily injections of the serum, for there is always some danger connected with the injection of a foreign serum, and of disturbing the normal pressure conditions within the central nervous system. On the other hand, daily injections should be made when the patient's condition remains stationary or fails to improve. By withholding the serum the chance of recovery is greatly reduced, and if recovery does occur it may result only after a long and tedious illness and the chance for complications

and sequelae greatly increased. One child, age 2 years, was admitted to Children's Hospital with temperature 105.9, pulse 168, respiration 84. Brought to hospital in ambulance; no history obtainable. Examination showed signs of meningitis. Lumbar puncture was done and cloudy fluid withdrawn, which contained meningococci on examination, and 30 c.c. of serum were injected. Although the temperature ranged around 104 to 105 and the child's condition was unimproved no serum was given until 5 days after first injection. The third injection was made 5 days later; the fourth 3 days later, and the fifth 12 days after the fourth injection. During this time the temperature ran a high remittent course and only slight amelioration in the symptoms occurred. Posterior basic meningitis followed, and convalescence was slow and tedious. This child was in the hospital about three months. Cases of this sort certainly should be treated more energetically and serum given daily.

The quantity of serum necessary to effect a cure varies. Some cases reported have been given large quantities. Netter gave 823 c.c. in 22 injections with recovery. Hammond gave 405 c.c. in minimum doses of 30 c.c. and maximum doses of 60 c.c. to a girl aged 12 years. It is difficult to explain these resistant cases.

Suffice it to say that enough serum should be given until the fluid is free from meningococci. Cultures should be made from the fluid before pronouncing a case cured. In this way only can relapses be prevented. When a relapse does occur it should be treated as the original attack, but, as a rule, is more resistant to the action of the serum.

In some virulent infections it may be necessary to inject the serum directly into the ventricles of the brain or a combination of intraventricular and intraspinal route may be used. In infants this is a rather simple procedure as the needle can be passed through the open anterior fontanelle. Fisher reports a cure in an infant 7 weeks old in which serum was given intraventricularly and intraspinally, grave prognosis at time of treatment. He also reports a case where life was prolonged for 37 days and child was in desperate condition when treatment was begun. In older patients it may be justifiable to trephine and inject the serum, but the results of this method are not encouraging.

Flexner's serum is not limited in its application to inflammation of the meninges alone but is of value in all cases of meningococcus infection. Ladd reports good results from aspiration of an infected joint and injection of the serum. These infected joints occur as a complication in many cases of epidemic meningitis. Councilman, Mallory and Wright report six cases of infected joints in 111 cases during the Boston epidemic. Bovaird reports one case and Netter reports one case in which there was a general blood infection with meningococci without discernible local inflammation of the meninges or other organs attended by great

mental excitement in which intravenous injection of the serum was followed by recovery. The serum seems, therefore, indicated in those cases where the meningococcus is the invading organism and where this organism can be brought into direct contact with the serum.

Other than beneficial effects are sometimes produced by the injection of the serum. Some of these are slight, others more serious.

The slight transient effects are pain in legs and lumbar region of 6 to 12 hours duration. Rectal and vesical tenesmus may occur. In some cases a sharp elevation of temperature may be noticed. Occasionally a rash with some fever is produced but usually lasts only a short time.

Collapse occasionally attends the injection from too sudden or too great increase in intracranial pressure. Death from this cause, however, is rare. Flexner, in a recent paper, states that the chance of dangerous increase in intracranial pressure is so small as to be negligible. The occurrence of collapse at the first puncture is also no indication that the accident will occur at subsequent ones. Levy states that cases showing alarming symptoms of collapse at the first puncture may bear subsequent ones well.

Williams and Fowler report a case of collapse after puncture from decrease in intracranial pressure; 45 c.c. of cerebro-spinal fluid were withdrawn and no serum given.

Levy noted collapse in 16 out of 160 patients treated. Two of these failed to rally and of the others 5 died during the course of the disease. He thinks collapse more likely to occur in the more severe infections.

Robb, in *British Medical Journal*, reporting 30 cases, states, "I have not so far seen symptoms which indicate undue pressure."

Dunn says that a few of his cases have collapsed after puncture but no deaths have occurred.

Certain effects, such as rise in temperature and increase in symptoms, may be produced by the sudden destruction of large numbers of diplococci by the serum and the liberation of endotoxins. It seems, however, that not much importance is attached to this action of the serum.

The severe symptoms of anaphylaxis, according to Flexner, can, it appears, be disregarded. There seems to be no danger from repeated injections. Sometimes urticaria is produced.

Hutinel has had two cases and knows of two more in which serum was given 35 and 44 days after first injection and serious nervous symptoms developed at once and proved fatal. The patients were 3 and 6 years of age, and 25 to 30 c.c. of serum were injected each time.

In closing I desire to report two cases of anaphylaxis resulting from the use of the serum.

Case 1.—White girl, age 4, admitted to Children's Hospital with clinical signs and symptoms of epidemic meningitis. Lumbar puncture was made on day of admission and 30 c.c. of cloudy fluid withdrawn which contained meningococci on examination. Thirty c.c. of Flexner's serum were injected. She stood the puncture well, and the following day, in view of no improvement, another injection was made. Thirty c.c. were withdrawn and the same quantity of serum given. The temperature remained high, ranging around 105, and no improvement in the symptoms was noticed. On the morning of the following day another puncture was performed, 9 c.c. of cloudy fluid obtained and, fearing the effects of pressure, only 15 c.c. of serum were given. The injection was made slowly and no undue resistance was encountered. Upon removal of the syringe from the needle no fluid backed out through the needle, showing that pressure in the canal was not increased. Shortly after the puncture was completed the pulse became rapid and feeble, the respiration rapid and labored, the face cyanotic, convulsive movements of the face and extremities were noticed, mostly on the left side, and the child went into a state of collapse. Morphine and stimulants were administered and the child gradually rallied, and about an hour later turned her head slowly and made a slight sound on being spoken to, the first sign of returning consciousness which had been obtained. The temperature remaining high and the symptoms pointing to a severe infection, another puncture was decided upon in the afternoon. Only a few c.c. of fluid were obtained and 25 c.c. of Flexner's serum given. The child stood the puncture fairly well, but about 5 or 10 minutes after operation was completed again collapsed and died in a few minutes.

Case 2.—White girl, age 9, admitted to Children's Hospital with signs and symptoms of epidemic meningitis. Lumbar puncture at 5 P. M. on same day, 30 c.c. of cloudy fluid withdrawn and same amount of serum given. Serum was injected without undue resistance and child stood puncture well. On June 7 at 3:30 P. M., about 48 hours after the first puncture (the temperature continuing high, at one time reaching 106.8), another puncture was performed. Only a slight amount of cloudy fluid was withdrawn and 23 c.c. of serum injected. No increase in intracranial pressure could be determined at the time. At 3:45, fifteen minutes after puncture, respiration became slow and by 4 o'clock the child had passed into a state of collapse. Respiration ceased, face became cyanotic and pulse rapid and feeble. Under stimulation and artificial respiration the pulse improved, became slow and strong, the color returned but the child made no attempt to breathe. The respiratory center was paralyzed. Artificial respiration was performed for seven hours, during which time the pulse remained good, the color excellent, but no attempt was

made to breathe. The temperature dropped from 106 at 5 o'clock to 96.4 at 11 P. M., the time of death.

This case shows the selective action of the anaphylactic poison upon the respiratory center.*

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Dr. S. S. Adams said that those cases reported by Dr. Ong which were seen in his (Dr. Adams') clinic at the Children's Hospital had taught him several lessons; he had before seen peculiar effects which should have warned him against anaphylaxis; he now felt sure that the doses of antitoxin in these cases were too close together. The suggestion had been made that trikresol used as a preservative in the antitoxin may prove toxic in some cases; the symptoms in these cases were those to be seen in carbolic acid poisoning; but whether trikresol or anaphylactic shock was responsible for the accidents in his cases is not now known. He wished to utter the distinct warning that practitioners should not be in too great a hurry to administer secondary doses of antitoxin.

When the fluid obtained by lumbar puncture is clear in suspected cases he would not give antitoxin until bacteriological confirmation of the diagnosis had been obtained; when the fluid is cloudy he does not wait. Promptness of puncture and, where indicated, injection of antitoxin must be insisted on in this form of meningitis. He had never seen any harm follow lumbar puncture. He had had a number of dry punctures, and had been embarrassed on several occasions by finding the canula occluded, so that he now invariably tests the canula beforehand.

Dr. W. P. Carr remarked that after testing a canula it may become occluded by a clot while in use.

* My thanks are due Drs. S. S. Adams and George N. Acker of the Children's Hospital staff for their kindness in permitting me to treat and report these cases which occurred in their service at the hospital.

Dr. Acker had listened to the paper with pleasure and congratulated the essayist upon the way the paper was presented. The matter had been stated very fully and Dr. Acker had nothing to add. He, of course, advocates the early injection of antitoxin, but the diagnosis is often very difficult. In many cases he had observed very good results from one injection of serum; in others several injections were necessary to produce any effect.

Dr. Macatee had been interested in hearing Drs. Flexner, Park, Rosenau and others discuss the subject of anaphylactic and other accidents following the use of biologic products, the discussion taking place during the recent Congress of American Physicians. Dr. Flexner was of the opinion that in all probability the trikresol could not be held accountable for the accidents, inasmuch as it may be present in sera to no greater extent than 4/10 of 1 per cent.; and, moreover, the same accidents have been observed in France, where no preservative is used. As to the accidents mentioned by Drs. Adams and Ong, they may have been anaphylactic, but whether the phenomena were due to rapidly repeated doses of serum may be questioned, inasmuch as several days must elapse between doses in order to sensitize animals, and anaphylaxis may be prevented, according the same authorities, by giving injections every day or two.

Dr. Wickliffe said that when the Flexner antimeningitis serum was first brought out it could be obtained only for use in bacteriologically demonstrated cases. A child in Dr. Wickliffe's neighborhood had all the manifestations of the disease, but no organisms were found; the serum was withheld and the child died. One of his own cases was demonstrated bacteriologically, and the serum was given but failed to save the child. It did not seem proper to him to waste time in that way.

Dr. Ong said that the amount of trikresol present in antitoxin is so small as to be negligible; however, the symptoms seen in his cases were certainly due to some poison, whether anaphylactic or not. As to clear taps, he believed that one should not be too cautious about giving serum even in these cases.

He Saved Money.—A farmer rushed up to the home of a country doctor in the village late one night and besought him to come at once to a distant farmhouse.

The medicine man hitched up his horse and they drove furiously to the farmers' home. Upon their arrival the farmer said:

"How much is your fee, Doc?"

"Three dollars," said the physician in surprise.

"Here y'are," said the farmer, handing over the money; "the blamed liveryman wanted five dollars to drive me home"

—*Popular Mechanics.*

LARGE FIBROMA OF OVARY.*

By D. S. Lamb, A. M., M. D.,

Washington, D. C.

Fibroma of the ovary is said to be very rare. There are eight specimens in the Army Medical Museum; in four of the cases the tumor is large. Many of these tumors undergo cystic degeneration, to a greater or less extent.

In one case in which the solid part of the tumor weighed 9½ pounds, there was a cyst containing 5½ gallons of fluid. In another case the uterus also was enlarged, and the uterus and ovary together weighed nearly 30 pounds. In a third case the growth was bilateral; one ovary measured 7 inches in long diameter, the other 4 inches.

The specimen presented this evening was contributed by Dr. Chadwick of this city, and weighs 6 pounds 9 ounces; there is some cystic degeneration. No adhesions. It was removed from an unmarried woman, age 52, whose health had been good and the tumor had not caused any symptoms, so it is stated. It was removed by Dr. J. T. Kelley, Jr., and the appendix, which appeared to be diseased, was removed at the same time.

NITROUS OXID AND OXYGEN ANESTHESIA.†

By Cline N. Chipman, M. D.,

Washington, D. C.

So much has been written lately on nitrous oxid and oxygen anesthesia that I feel like it is imposing on the Society to bring this subject up tonight. But, on the other hand, in justice to the patient, I also feel that we are not using nitrous oxid and oxygen anesthesia as often as we should. There are a few surgeons in this city who are using quite a little nitrous oxid and oxygen anesthesia, and I think they are well pleased with the results. The public at large is becoming informed on some of the good features of gas anesthesia, for they are requesting that they have nitrous oxid and oxygen in preference to ether or chloroform. When the public commands we have to obey.

Of the general anesthetic agents now employed the combination of pure nitrous oxid with oxygen, when properly administered, is the safest, the most agreeable and the freest from post-anesthetic complications.

* Reported to the Medical Society, October 29. 1913.
† Read before the Medical Society, October 8, 1913.

Anoci Association is the word coined by Crile, of Cleveland, and used by him to designate a condition of the patient in which harmful stimuli are prevented from reaching the brain by blocking or paralyzing the receptor mechanisms by anesthetics or narcotics. With this dissipation of nervous energy there results a general functional weakness which causes a condition clinically of shock. In speaking of the part played by anesthetics in producing brain cell-exhaustion, he states that although ether anesthesia produces unconsciousness, it apparently protects none of the brain cells against exhaustion from trauma of surgical procedure.

He further states that the negative evidence that inhalation anesthesia offers little or no protection to the brain cells from trauma is derived from the following experiment:

A dog, the spinal cord of which had been divided at the level of the first dorsal segment, and then kept in good condition for two months, showed a recovery of the spinal reflexes, such as the scratch reflex, etc. This animal is known as the spinal dog. Now, in this animal, the abdomen and hind extremities have no direct nerve connections with the brain. In such a dog a continuous severe trauma of the abdominal viscera and of the hind extremities lasting four hours caused not the slightest change in either the circulation or respiration and no microscopic alteration of the brain cells. Judging from a large number of experiments on normal dogs, under ether, such an amount of trauma should have caused not only a complete physiologic exhaustion of the brain, but also morphologic alteration of all the brain cells and physical destruction of many.

We must, therefore, conclude that although ether anesthesia produces unconsciousness, it apparently protects none of the brain cells against exhaustion from trauma of surgical operations. Ether is, so to speak, but a veneer. Under nitrous oxid-oxygen anesthesia there is approximately only one-fourth the exhaustion after equal trauma as under ether, either nitrous oxid protects or ether predisposes to exhaustion under trauma.

Such men as Teter, Gwathmey, Hewitt, Gatch, Henderson and others have found that nitrous oxid and oxygen anesthesia causes little or no shock, and does not produce nephritis, pneumonia or any of the degenerative changes so common after ether or chloroform anesthesia. The only practical danger of gas-oxygen anesthesia is that of asphyxia, caused by the fact that nitrous oxid must be given from eighty to ninety per cent. pure, so that the gas will act on the nerve cells and bring about the proper anesthetic state. The patient can pass from profound anesthesia to the conscious state within sixty seconds, and for that reason the extreme rapidity of induction and elimination makes the administration of nitrous oxid and oxygen the most difficult general anesthetic to administer properly.

Teter states that muscular tone is maintained to a much greater extent than when ether or chloroform is used, it being impossible to obtain the same degree of flaccidity of the musculatur that can safely be procured with the more powerful anesthetic agents.

Dr. E. M. Prince, of Birmingham, Ala., states: "I have during the past four years performed over 2,000 operations under gas-oxygen anesthesia, and I am today using nothing in my surgical work except gas-oxygen anesthesia, regardless of the kind of operation, size of the patient, or previous habits. And when I speak of gas-oxygen, I do not mean gas-oxygen with just a little ether; I mean that there is not one drop of ether used during the entire operation." He also states that he examines surgical patients with care before the administration of the anesthetic, but regardless of findings, gas-oxygen is given. While I can not say that I have been as successful as Dr. Prince, yet the most of my cases have been completely relaxed and free of cyanosis. I am referring to cases that have had only nitrous oxid and oxygen and no ether. It has been my rule to give nitrous oxid and oxygen, or ether, straight, and not mix the two. It is well known that by adding a little ether to the nitrous oxid and oxygen, it is possible to have all patients completely relaxed, but, on the other hand, if there is any post-operative trouble, it is impossible to say which was at fault, because we know that a small quantity of ether in some cases will cause severe vomiting.

Preparation of Patient.—It is important that the patient should be properly prepared for nitrous oxid and oxygen, as well as any general anesthetic, and especially should the stomach be empty, for he will vomit if the anesthetic is too light, or if it should be pushed to deep cyanosis, and as he reacts within sixty seconds after the nitrous oxid is stopped, he might become conscious of his surroundings while the mask and face are being cleansed.

Preliminary Medication.—It is my rule that all patients except children shall have morphine sulph. gr. ¼ and atropine sulph. gr. 1/100, hypodermically a half hour before the operation. Because the patient comes into the operating room more composed, the induction period is shortened; the excitement stage is lessened or entirely eliminated, a deeper anesthesia is obtained, with better relaxation; also the excessive secretion of mucus is prevented. Again, the administration of morphine is not only for its aid in quieting the patient, and assisting the anesthetist, but because the patient reacts so quickly something is needed to prevent the pain which generally follows an operation. I know there are still some surgeons who refuse absolutely to permit morphine to be used before the anesthetic, but these same surgeons will order morphine and in large doses, post-operative, by the time the patient is returned to his room, to prevent shock and to relieve pain;

but it is hard to understand why morphine is so valuable post-operative and so harmful during the operation.

Selection of Patients.—The only patients that I would prefer not to give gas-oxygen to, are children under five years of age, because they are easily asphyxiated. It is contraindicated in patients with a severe degree of arteriosclerosis, because we may have some cyanosis and that means congestion of the brain, which would put an extra strain on the hardened arteries. The same thing is very apt to happen when using ether, if the subject is hard to anesthetize, so that if I can keep the patient free from cyanosis, with plenty of oxygen, I would just as soon take my chance with gas-oxygen.

The highly neurotic individual, the man who uses alcohol, tobacco or drugs excessively, is never a good subject for chloroform or ether and acts no better under nitrous oxid and oxygen. I recently gave gas-oxygen, however, to a woman who used morphine in large quantities and had not the slightest bit of trouble with her. Teter states that a slight degree of cyanosis is not objectionable, nor is it dangerous. I think that with the proper apparatus that gives an even flow of the gases, and if properly given, no cyanosis should occur. And if there is cyanosis it is because the patient is not getting enough oxygen, too much rebreathing, irregular flow of gases, or some fault of the anesthetist.

Warm Gases.—I can not say too much for warm gases. And it is only necessary to give cold nitrous oxid and oxygen once and then try the warm gases to see and appreciate the advantages of the latter.

Gwathmey has found that nitrous oxid and oxygen, administered warm, are more than twice as safe as when given at their normal temperature, and from three to five times more safe than the cold gases. With the warm gases the patient is more easily and quickly anesthetized, relaxation is better, because warm nitrous oxid is more readily absorbed by the blood than is the cold gas, so that the anesthesia is deeper and more perfect in every way. It is important not to heat the gases above the body temperature, for if a patient inhales overheated gases for some time, it will bring on exhaustion, and he will complain of extreme thirst after the anesthesia.

Rebreathing.—The question of rebreathing is quite a problem in itself. Yandell Henderson, professor of physiology in the Yale Medical School, in his work, "Acapnia and Shock," states that by far the greater number of all deaths under anesthetics are fundamentally due to acapnia (diminished carbon-dioxide in the blood and tissues) resulting from the excessive pulmonary ventilation during the stage of excitement. Gatch, of Baltimore, at Johns Hopkins Hospital, who possibly has done more with re-

breathing than any one else in this country, was the first to place on a scientific basis the method of rebreathing nitrous oxid and oxygen. The points in favor of rebreathing are, first, it furnishes sufficient carbon-dioxide and this prevents acapnia. Henderson states that " it must be remembered that carbon-dioxide is a powerful drug and one to be administered in small quantities only, never in greater concentration than five or six per cent.

Second, it materially reduces the cost of gas-oxygen anesthesia per hour. The patient under nitrous oxid and oxygen will breathe 600 c.c. at each inhalation, and will inhale about thirty times a minute, making 270 gallons of gas per hour. Teter states that by the method of rebreathing that he employs, he uses 20 gallons of oxygen and 100 gallons of nitrous oxid per hour. Taking 120 from 270 would leave 150 gallons, the quantity saved by rebreathing. Or, in other words, it would cost about $6.00 per hour if the 270 gallons of gas were consumed, whereas if rebreathing was used and only 120 gallons were consumed, the cost would be about $3.00 per hour. Personally I have never been able to use rebreathing to that extent, and can not say that I favor rebreathing except for the saving in the cost of the material. For, as stated above, if morphine is used before the anesthetic, we rarely have any excitement and excessive pulmonary ventilation. The proper amount of rebreathing must be governed by the symptoms in each case. When too much rebreathing is allowed the patient will show symptoms of light anesthesia quickly followed by asphyxial manifestations. An excessive quantity of carbon-dioxide will cause, first, rapid, forced respiratory efforts, followed by sweating, livid appearance, gradual slowing of pulse, and finally the patient will stop breathing.

A good illustration in regard to rebreathing is the automobile. If the automobile is running on the level and the gas and spark levers are set at certain points, it will be found that the automobile is running at a definite number of miles per hour, and will continue at that rate so long as it remains on the same level, and the gas and spark levers are not changed. But as soon as the gas is increased or decreased the automobile will increase or decrease its rate of miles per hour in the same proportion that the gas is increased or decreased. Now the patient is very much like the automobile, for after getting the patient anesthetised and finding the proper quantity of nitrous oxid and oxygen required to maintain anesthesia, he will breathe at a regular rate and depth as long as the gases are flowing uninterruptedly and at the given pressure required to maintain anesthesia. Now when rebreathing is started, the quantity of nitrous oxid the patient is getting is reduced, thereby affecting the rate and depth of the respiration, thus getting a lighter anesthesia, so that if the same degree of anesthesia is to be maintained, the nitrous oxid will now have to

be increased in order to get the patient back to the same stage of anesthesia that he was in before rebreathing was started. I think it is readily seen from the above statements, that if rebreathing is used, there will be a more or less irregular anesthesia, so that the patent will be relaxed one minute and rigid the next, whereas if the gases are flowing uninterruptedly and at a regular pressure, an even anesthesia may be maintained, and as long as this is done the pulse and respiration will maintain a definite rate per minute. Recently after a gas-oxygen anesthesia lasting one hour for a goiter operation, the assistant of the operator, who had been standing on the left side of the patient, so that his hand was immediately over the heart, stated that the heart beat had not varied at all during the entire operation.

Positive Pressure for Thoracic Surgery.—Personally I have had no experience with positive intrapulmonary pressure. But it ought to be the ideal anesthetic for this work for the following reasons: (1) It is the only general anesthetic which will allow the continuous application of a mask to the face throughout the operation. (2) Actual cautery may be used on the ends of bronchial tubes, as nitrous oxid is not inflammable. (3) No pump of any kind is needed. (4) Nitrous oxid does not irritate the lungs as does ether.

Gatch, Sterling, Teter, Bunnell and others have used gas for thoracic surgery and report favorable results.

The Apparatus.—We have heard quite a little about the importance of a regular and even flow of both gases, so I think a few words about the apparatus used will not be out of place.

Among those on the market are the Hewitt, the Teter, Coburn's, Gatch's, and Boothby & Cotton's apparatus; the Gwathmey-Woolsey apparatus and the Monovalve made by the Ohio Chemical & Manufacturing Co. The last named is the one before us, and I think it is the best on the market for the following reasons: it is portable, simple and complete. The gases are automatically reduced to the desired pressure by two sets of automatics before reaching the gas bags, so that it is only necessary to turn the gases on, for the patient to get a regular and even flow. The pressure of the nitrous oxid and oxygen may be increased or decreased as desired by adjusting the automats.

The oxygen bag has a shut-off valve so that the patient can only rebreathe in the gas bag; in this way we always have pure oxygen to use if needed. The Monovalve may be adjusted for rebreathing if desired; has ether and chloroform attachment; has heating device which is operated by an electric rheostat which may be connected with any ordinary lamp socket. Gwathmey states that the Ohio Monovalve apparatus employs a reducing valve for both nitrous oxid and oxygen, thus enabling the administrator

to regulate the flow of gases more accurately than is possible with anything previously devised.

Advantages of Nitrous Oxide and Oxygen Anesthesia.—

1. Rapidity of action.
2. No unpleasant sensation to patient.
3. Absence of post-operative complications.
4. Very little post-operative vomiting.
5. Absence of pneumonia, nephritis or blood changes.
6. Little or no shock.
7. Lack of dread should future anesthesia be required.

Disadvantages.

1. The necessity of a trained anesthetist and an expensive apparatus.
2. Cost of the nitrous oxid and oxygen.
3. Rigidity in some cases; although this can be entirely avoided, by using Crile's method of local infiltration of 1/400 solution of novocain, so that it is possible to have complete relaxation in all cases.

CONCLUSION.

1. That nitrous oxid and oxygen may be given in all cases where a general anesthetic is required.
2. That it may be used without the addition of ether or without the preliminary of morphine.
3. That most patients take the anesthetic easier and are better subjects for the operation, if a preliminary of morphine gr. ¼ and atropin gr. 1/100 is given.
4. That the recoveries in patients suffering with severe septic infections are much greater when nitrous oxid is used.
5. That we do not have any post-operative complications when nitrous oxid is used.
6. That it should never be given except by one well trained in this work.

ARTICLES REFERRED TO:

1. Journal Surgery, Gynecology and Obstetrics, June, 1913, page 627.
2. Journal A. M. A., May 4, 1912, page 1342.
3. Journal A. M. A., March 23, 1912, page 838.
4. Journal A. M. A., February 17, 1912, page 465.
5. Journal A. M. A., September 13, 1913, page 838.
6. New York Medical Journal, November 9, 1912, page 943.
7. Journal A. M. A., November 23, 1912, page 1849.
8. Journal A. M. A., February 10, 1912, page 395.

Dr. Roy said that Dr. Chipman had made the statement that he could see little difference between giving morphia and atropia before the operation and after the operation; it was a fact, however, that these drugs may affect the pupil and the morphia may

depress the respiratory center, so that the anesthetist may be deceived as to the condition of the patient.

Dr. A. L. Hunt could add little to what Dr. Chipman had said; his own experience had about paralelled that of the essayist. The effect of ether is the result of its dissolving out the lipoid of central nervous tissue; thus chemical damage of greater or less degree is done. Nitrous oxid, on the other hand, anesthetizes by interfering with the oxygen interchanges in the brain cells, and the physiologic processes are resumed as soon as the gas is withdrawn. He agreed with Dr. Chipman that nitrous oxid-oxygen anesthesia is not well adapted to alcoholics, drug habitues, and heavy smokers. One may as well abandon this method if anesthesia is not produced in a minute or two. The lack of complete relaxation under this anesthetic would be a drawback were it not possible to secure complete relaxation by nerve blocking of the area of operation. The expense of the gas is a drawback also, but the cost may be reduced by buying the nitrous oxide in large tanks. The method of rebreathing is a development upon the fundamental method and its admissibility depends upon the degree of expertness of the anesthetist.

Dr. Kearney had been interested in this subject for a number of years. He was an advocate of good anesthesia rather than any one particular agent; but if the best results are desired, judged by all considerations, in his opinion nitrous oxid-oxygen is the anesthetic of choice. The dangers of the method are technical ones, and are within the control of the anesthetist; the only danger of importance, to his mind, arises from the temptation to reduce the oxygen content of the mixture too much in difficult cases; in such cases it is much better to change to ether anesthesia. Relaxation may always be got by good team work between the anesthetist and the operator, and by the use of Crile's methods. The absence of complete relaxation may react to the advantage of the patient because on account of it the handling by the surgeon is apt to be gentler. The cost of anesthesia varies with patients and with the amount of rebreathing allowable. In one class of cases nitrous oxid-oxygen seemed to be an ideal anesthetic, namely, in obstetrics. In a very brief time anesthesia may be produced without the loss of muscle tone and without interfering with uterine contractions. There is a case reported by Black, of Memphis, in which there were shock and lung complications after gas-oxygen anesthesia; Dr. Kearney had not had an opportunity to study this report and therefore was not informed as to the circumstances of the case.

Dr. Prentiss Willson inquired if Dr. Chipman had had an opportunity of giving gas-oxygen anesthesia in cases of eclampsia? Foote had looked forward to its use in toxemia of pregnancy as ideal, but had been disappointed, having met with two fatalities after its use.

Dr. R. Y. Sullivan had seen gas-oxygen used in one of Foote's cases of pernicious vomiting; in this case the blood pressure was down to 80; the anesthetic gave perfect results. In another case of toxemia, with renal infection, in which there was high temperature and high blood pressure, the gas-oxygen mixture acted well, and the recovery was good.

Dr. W. P. Carr had been using gas-oxygen anesthesia in all cases able to pay for it for the past two years, except in cases of extensive abdominal operations, in which formerly he was unable to get good muscular relaxation. He now finds that by the use of Crile's methods he can employ the anesthetic in all classes of cases. The method is to block the area by extensive use of a 1–400 solution of novocain, blocking the tissues as dissection proceeds; two or three ounces of the solution may be used in a single operation. Whether complete relaxation is necessary or not, this blocking ought to be used in all cases anyway, because it saves the patient from experiencing the early pain after recovery from the anesthetic. Pneumonia and renal complications follow the use of ether more often than many surgeons prefer to believe, and they may be avoided by using gas-oxygen anesthesia.

Dr. Chipman replied to Dr. Roy that his own reference to the use of morphia had in view its employment for the prevention of shock, and he still believes that it acts in precisely the same way whether given before or after the anesthetic. In a few cases rigidity, with some cyanosis, may persist for seven or eight minutes, but even these patients soon get used to the anesthetic and do very well under it. He called attention to the case of a boy in the George Washington University Hospital who had empyema with congenital heart disease; he was extremely dyspnoeic, and seemed to be the most unpromising anesthetic risk possible; but he took the gas-oxygen very well indeed and recovered quite happily. About one in twenty patients will be nauseated as severely as after ether, but this nausea is of momentary duration only. He had been as yet unable to find an opportunity to use the anesthetic in obstetric conditions, though he had been on the lookout for such an opportunity.

A Wise Postmaster.—The following sign was posted at the opening of the baseball season in the office of Postmaster Campbell, of Chicago:

"SPECIAL NOTICE.

"All requests for leave of absence owing to funerals, weddings, lame back, house cleaning, sore throat, headache, indigestion, etc., must be handed in not later than 10 a. m. on the day of the game."

INTRASPINOUS INJECTION OF SALVARSANIZED SERUM IN THE TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM, INCLUDING TABES AND PARESIS. ABSTRACT.*

By William H. Hough, M. D.,

Washington, D. C.

There is scarcely a disease in which the early institution of treatment is of greater importance than is syphilis of the central nervous system. Many cases are too far advanced to respond favorably to medication by the time they reach the institution stage. As it is not within the scope of this paper to discuss diagnosis, I wish only to emphasize the importance of applying every means at our command in all doubtful cases, in order that treatment may be applied, if necessary, before the occurrence of degenerative nerve tissue lesions. Let it not be understood that I consider the diagnosis always an easy matter, nor that a positive diagnosis can be made in every case, even if all modern facilities are applied. To illustrate the difficulties in this line, I wish to quote from one of our best authorities, Dr. Smith Ely Jelliffe, of New York. He states "There is probably no field in medicine wherein similar disease pictures may arise from so many dissimilar causes as in the domain of the nervous system, nor, on the other hand, where a single etiological factor may give rise to so many dissimilar pictures. Hence, the necessity for detailed and minute inquiry into all of the possible symptomatology of hereditary and acquired syphilis, which in all questionable cases should be supplemented by complete serological and cytological examinations."

Authorities now quite well agree that the most efficient treatment for syphilis of the nervous system, as in syphilis in general, in all of its many stages and manifestations, is an active combined mercury-salvarsan therapy. The results obtained by ordinary methods of administration of these remedies in the nervous manifestations occurring in the early stage of the disease, have been very gratifying, whereas in the later manifestations treatment by the ordinary methods has not been encouraging, although a number of instances of good results have been reported. (By ordinary methods of administration I mean salvarsan intravenously and mercury by injection or inunction.) By the later manifestations of the disease I refer in this paper especially to tabes and paresis, two diseases generally classified under the vague term parasyphilis. It has now been proven conclusively by Noguchi,

* Read before the Medical Society, October 19, 1913.

Nichols and Graves in this country and Marie, Levaditi, Foerster and several others in Europe, that paresis is an active syphilitic disease, that is, that living treponemata pallida are present in the paretic brain, and, as Graves has shown also, in the blood, and although we have not as yet exactly the same final proof in tabes, it is quite apparent for many reasons which may be given, that it is a similar disease affecting a different part of the central nervous system. It should be mentioned that Noguchi has found the parasite in one case of tabes.

The fact that the organisms have not been found as a rule near the bloodvessels, but generally in the gray matter at some distance from them, and Uhlmann has shown in his studies of the neurotropic action of salvarsan that this chemical appears to have a greater predilection for most of the other tissues of the body than it has for nerve tissue, may explain in part the inefficiency of salvarsan administered intravenously in the treatment of these conditions. It has been shown that salvarsan and certain chemical substances administered intravenously scarcely if at all reached the ventricular fluid, whereas, such substances injected into the inferior spinal canal, *i.e.,* into the subarachnoid space, readily reached the ventricles, therefore, thrown into the space which communicates directly with the perivascular and perineural spaces. As it is known that the blood serum of recently treated or cured syphilitics has a marked tropic action upon treponema pallida as shown by laboratory experiments, and, as direct injection of salvarsan into the subarachnoid space, even in very weak solutions, was found by animal experiments and otherwise to be injurious, the following technic was devised by Swift and Ellis of the Rockefeller Institute for Medical Research, in 1912, for bringing an effective medical agent into more direct contact with the disease process than appeared to be possible by intravenous administration, the same principle being used which proved to be so efficient in the treatment of some of the purulent meningitides. We should bear in mind that in the syphilitic diseases of the nervous system we are dealing with general constitutional disease and not disease confined to the central nervous system. In paresis, for example, histological examination has shown that changes are present in many tissues of the body besides nervous tissue. As will be seen presently, the intraspinous method is only an addition to the modern method of treating constitutional syphilis.

Technic.—A dose (generally the maximum) of salvarsan or neosalvarsan is given intravenously in the usual manner. At the end of an hour, 50–60 c.c. of the patient's blood are drawn by means of venous puncture, clear serum is separated, diluted to 40 per cent. with normal salt solution, heated to 56 C., for half an hour, kept cool until the following day, when it is warmed to

body temperature and injected into the subarachnoid space by means of lumbar puncture, after withdrawing about 15 c.c. of spinal fluid; the amount of diluted serum injected being 30 c.c. (after the first few injections, if well tolerated, I usually inject 40 c.c. of a 50 per cent. serum). It must be injected slowly without the use of much pressure. After the injection the patient is kept in bed for about twenty-four hours, with the head lowered.

The number of treatments to be given depends largely upon the condition of the case, but the general rule is to give, if possible, eight or ten treatments, one every second week, then discontinue for a time and repeat the treatments if necessary, using as an index the four reactions; the four reactions being as is now generally well known, the Wassermann reaction with the blood, the Wassermann with the spinal fluid, and the cell and protein estimation of the spinal fluid. As mentioned in the beginning, mercury, and iodide if indicated, should also be administered.

Results.—Those who have so far reported results from this method of treatment are as follows: Swift and Ellis, Fordyce of New York, Myerson of the Psychopathic Hospital, Boston, Cotton of the Trenton State Hospital, Asper of Baltimore, and the writer. About sixty cases in all and about five hundred treatments have been given. Many of the cases reported have not as yet received a sufficient number of treatments and but few have been under observation for a sufficient length of time to state what the final outcome will be. Many of the cases have not been the most favorable for treatment owing to nerve tissue degeneration. However, there has been marked improvement in the syphilitic inflammatory process as indicated by the four reactions, and in many (the cases of tabes especially,) there has been most pronounced clinical improvement. The following is a very brief summary of the cases of tabes reported by the originators of this method:

Case 1. Spinal fluid normal for over one year. Free from pain. No advance in the tabetic process.

Case 2. Spinal fluid normal for nearly one year after discontinuance of treatment. Returned to his work. No advance in the tabetic process.

Case 3. Ten intraspinous treatments alone; no intravenous treatment. Most striking symptomatic improvement as well as return of spinal fluid to normal.

Case 4. Patient received only four intraspinous treatments and would not continue. Spinal fluid returned to normal. Less marked symptomatic improvement.

Case 5. Spinal fluid normal except for slight globulin increase.

Case 6. Spinal fluid normal but Wassermann in blood positive.

Case 7. Spinal fluid normal. Wassermann in blood diminished.

Case 8. (Especially significant.) Patient took treatment followed by improvement in spinal fluid. Refused treatment for eight months and had relapse with increase in the spinal fluid findings. Took treatment again followed by symptomatic improvement and return of fluid to normal.

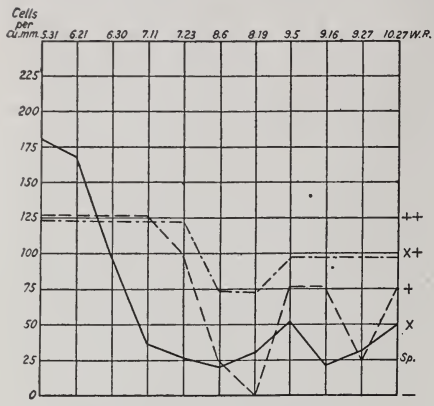
Case 9. This case showed advantage of combined intraspinous and intravenous treatment. Reactions disappeared under combined treatment and reappeared under intravenous treatment alone.*

So far as tabes is concerned the reports by others show about the same general results. In paresis, improvement has been reported in many instances; every worker having obtained some favorable results. The best results in paresis were reported by Cotton, Myerson and Asper. Three of nine cases treated by Cotton sufficiently improved to be discharged from the institution, and there was some improvement in five others. One juvenile case returned to apparently normal condition with the exception of the pupillary reactions, after having had numerous convulsions. In this disease it must be remembered that we are dealing with a more difficult problem than in tabes, inasmuch as the disease process is more inaccessible and affects a more vital part of the nervous system. Here it is especially important that treatment should be instituted early in the disease. However, in the later cases the indications are that the inflammatory syphilitic processes may be arrested. If we are able to arrest the process in paresis and tabes, and the evidence so far is strongly in favor of it being possible in some cases, a marked advance will have been made in the treatment of these hitherto almost invariably incurable diseases. The most favorable results may be obtained, as naturally would be expected, in the nervous manifestations occurring in the earlier stages of the disease.

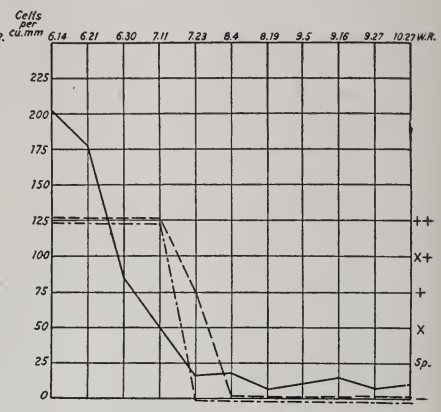
My own experience consists of thirty-six treatments administered to six patients. As two of the patients have received but one treatment each I will report here but four cases. For case histories see original article. For the effect of the treatments on the clinico-pathological tests see charts. On these charts I have endeavored to show three of the four reactions, namely, the cell content of the spinal fluid, the Wassermann reaction in the spinal fluid, and the Wassermann reaction in the blood. They do not show the protein content, but this generally corresponds fairly closely to the cell content, although it does not diminish quite as rapidly as the cell content and may be distinctly increased when the cell content is normal. It is to be seen from the charts that the four reactions have been effected in all cases with the

* For detailed report of these cases see "The Treatment of Syphilis of the Central Nervous System, with especial reference to the use of Intraspinous injections"; Swift & Ellis, *Arch. Int. Med.*, Sept. 15, 1913, p. 331.

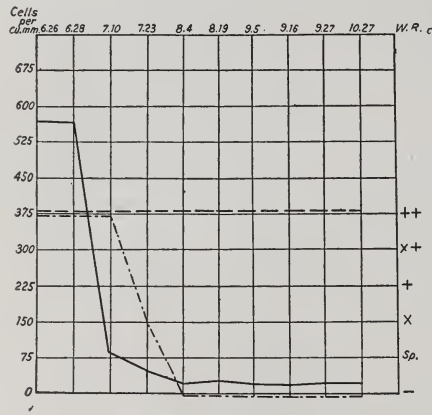
exception of the blood in case 3. In three of the cases, 1, 2 and 4, there has been clinical improvement:



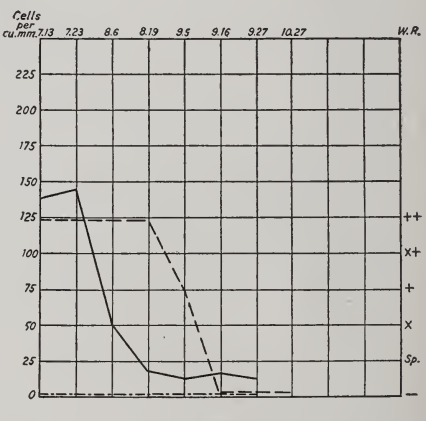
CASE NO. 1.—PARESIS.



CASE NO. 2.—PARESIS.



CASE NO. 3.—PARESIS.



CASE NO. 4.—CEREBRAL SYPHILIS.

EXPLANATION OF THE CHARTS.—Cells per cu.m.m. indicated on left. Cell count indicated by ——. Wassermann reaction indicated on the right. ++complete inhibition of hemolysis. X+ very slight hemolysis. + about 50 per cent. hemolysis. X about 25 per cent. inhibition of hemolysis. "*sp*" very slight inhibition of hemolysis. — complete hemolysis. Wassermann reaction with blood serum indicated by —— —— —— ——. Wassermann reaction with spinal fluid indicated —— - —— - ——. The dates at the top show the time of treatment and examinations.

It is too early to predict what the outcome will be in the cases here reported, but we see pronounced improvement in the four reactions in all and symptomatic improvement in three. We should bear in mind that improvement and remissions in paresis are not uncommon, but when we see at the same time improve-

ment in the four reactions, it appears to me to be of considerable significance. I may add in connection with the clinico-pathological tests that in the study of the cerebrospinal fluid in 240 cases of paresis, some of which had already received various kinds of treatment, and in many of which repeated punctures were made, I have never seen such pronounced improvement in the reactions as occurred under the intraspinous injections.*

Before closing I wish to quote the following from the last article on the subject by Swift and Ellis: "Each case presents a slightly different problem, and must be considered individually. Some respond much more rapidly than others, but the object in all should be to obtain a persistently normal cerebrospinal fluid. Of course, we cannot state with certainty that a normal cerebrospinal fluid assures that there will be no further progress of the degenerative process. All that we can say is that as long as the cerebrospinal fluid gives evidence of a specific pathological process in the central nervous system, and we have specific therapeutic measures which will remove that evidence, these measures should be applied. Only when the fluid becomes normal are we justified in discontinuing the treatment, and observations of the fluid should be continued so that at the first evidence of relapse treatment may be resumed.

The method of intraspinous injection is not presented as a substitute for any of the accepted forms of treatment, but as an aid in attacking these severe infections. We feel that there is definite evidence that this form of treatment has a curative action on the syphilitic process and that, therefore, its combination with intensive intravenous treatment is indicated where especially intensive treatment is required, as in rapidly advancing tabes or paresis, or where the disease has resisted other forms of treatment."

The opinion of those (all of the above mentioned investigators with the exception of Myerson) who entered into the discussion of this subject before the New York Neurological Society, a few weeks ago, was that we have in the intraspinous injection of salvarsanized serum the most promising treatment for tabes and paresis that has yet been recommended.

Dr. W. A. White said that Dr. Hough's paper had opened an endless subject. It seemed hardly necessary to call to mind that before the discovery of the treponema pallida we had learned all that was possible about the treatment of syphilis, including the fact that we had no treatment of value for the so-called paraluetic diseases of the nervous system; they were all practically hopeless, despite the treatments which from time to time came

* For a more detailed account of the writer's results with the examination of the cerebrospinal fluid and Wassermann reaction, see *Rev. Neur. and Psychiat.*, Aug., 1913.

into vogue until they were found to be fallacious. We are confronted by a very complicated situation when dealing with parasyphilis, so-called, and we need to be very conservative. The discovery of 606 has only opened the door to a knowledge of the syphilis problem, and what was hailed as the key to the situation has been in part disappointing. Our old conception was that metasyphilitic conditions were dependent upon syphilis, but were not actually manifestations of that disease; but we have now learned that metasyphilis is in fact syphilis, and whether it is anything more has not been determined. The mode of treatment dealt with in Dr. Hough's paper has served to explain some of the old empirical observations: the treponema gets into the nervous system and makes its habitat in spaces as far from the reach of the blood serum as possible; thus to eradicate it, it becomes necessary to attack by a more direct route than by the blood serum through intravenous injections. Of course the direct intraspinous injection of salvarsan is very dangerous, and in order to overcome the obstacles in the way, the Swift-Ellis method was evolved. At the present time the results warrant nothing more than the hope that we are on the right path; for the first time we can approach the therapy of these conditions rationally; the door has been opened.

But in paresis we are dealing with a disease peculiarly prone to spontaneous remissions and cautious reserve should attend observations of the treatment of it; however, it is encouraging to notice that laboratory tests show conclusively that there is a direct correlation between the findings in the spinal fluid and the improvement of clinical symptoms. He would be inclined to expect even better results in tabes, because this is not such a deepseated nor widespread disease; but we know that we may not expect any improvement of symptoms due to destructive lesions; the most that we can accomplish is the arrest of the progress in paresis; there will be permanent destructive lesions, but what may be the permanent symptoms to expect we do not know, because the kind and location of the lesions themselves is not known; they may be almost anything. The great hope remains that with early diagnosis, with laboratory helps, early treatment may be instituted and cures be effected. There was a case at the hospital recently, the patient having a frank manic outburst, apparently functional; but the four reactions were positive and the diagnosis of paresis was made. The mania quickly passed, the patient and his friends thought he was well, and he left the hospital; but he is at present confined in an institution in New England, a typical grandiose paretic. Such cases we may hope in the future to save. With the increased ability for early diagnosis and with the method of treatment opened up by Swift and Ellis, it does not seem too much to say that

the problem of the treatment of syphilis of the nervous system is *on the way* to solution.

Dr. Tom A. Williams said that it was very impressive to hear at last such free admission of the syphilitic nature of tabes and paresis. Many neurologists have refused to concede the direct etiological relation of syphilis to these two diseases until the finding of the treponema in the brains of paretics has driven them from their position. An enormous step of progress is achieved by the removal of this obstacle of faulty doctrine. He agreed with Dr. White that the old treatment of these conditions as ordinarily practised was a failure; but it was only so when treatment was carried on according to the perfunctory methods in vogue. The introduction of salvarsan, as Dr. White said, has only opened the door of the subject and many loose statements and conclusions have been made and may still be expected. As to the Swift-Ellis method, it affords great hope; the number of cases benefited by it is already sufficient to afford ground for the opinion that the method gives distinct advantages in the treatment of the so-called paraluetic diseases. There is more involved in the indirect administration of the salvarsan than avoidance of the danger of intraspinous injection of salvarsan solution; as Swift and Ellis have pointed out, treponema may be exposed to salvarsan without killing them; but they are killed when exposed to salvarsanized serum.

The hygiene of the syphilitic was a most important factor in the treatment of this disease by the old methods, and it continues to be important under the new conditions. There are two forces at work then in the treatment of syphilis; the treponemacidal effect of drugs, and the treponemacidal effect of natural forces. He would emphasize the fallacy of the idea that because a patient cannot entirely recover from the effects of those diseases, therefore he cannot be cured; very many patients may be cured, but with permanent disabilities.

Dr. H. J. Nichols, U. S. Army, was much interested in the paper; Dr. Hough was to be congratulated upon taking up this new field of labor. Syphilis has long held the center of the stage, and it still holds it, and with renewed vigor, since the discovery of the treponema in the tissues of the central nervous system; Levaditi has found treponemas in the brain as numerous as in a chancre. The Swift-Ellis form of treatment had special interest to him because in 1910 he and Dr. Hough had treated paresis with 606 by intramuscular injections; there had been some improvement in the Wassermann reaction, but the results were not marked enough to keep up their interest in the work. Prof. Abt also worked with 606 in efforts to help paretics. Since the discovery of the pallida in the brains of paretics the subject has been actively taken up again. The most baffling problem is

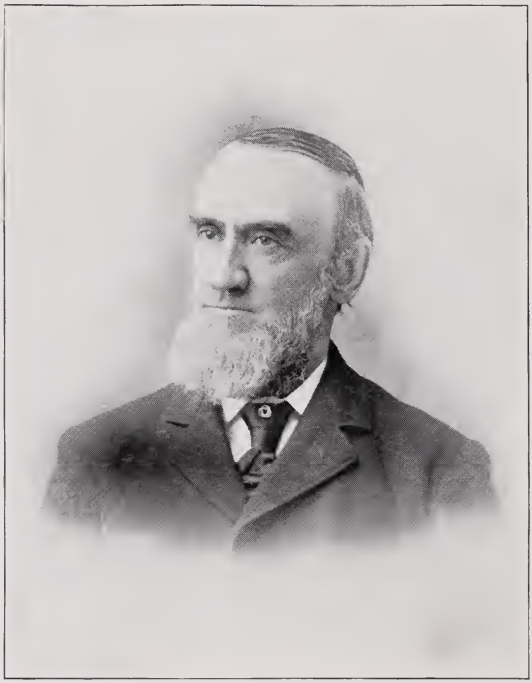
the cause of relapses; if the cause is merely the inaccessibility of the organisms, we are now on the right track; if relapses are due to a resistant spore in the treponema, then we have further to search. The former explanation seems the most probable at the present time. The question remains whether all the organisms in the brain can be reached; still, the Swift-Ellis method is the most hopeful and rational line of therapy extant.

Dr. Hagner said that the question as to the curability of syphilis will have different answers according to whom one addresses the question; genito-urinary surgeons and dermatologists will answer that syphilis is curable; the neurologists see only those unfortunates who have not been cured, and thus they answer that the disease is not curable. From his experience he had reached the conclusion that the best treatment for syphilis at the present time is a combination of salvarsan and mercury therapy. He questioned whether cerebral syphilis ever occurs as soon after the chancre as in the case in Dr. Hough's series; this case may be explained by the fact that chancres may recur locally without a second infection.

Dr. Simpson said that the decrease of the spinal fluid cell counts and the improved Wassermann reactions after the Swift-Ellis treatment were very striking facts; but it did not seem to him likely that we will be able to cure chronic diseases like tabes and paresis by any such feeble method as injecting less than 1 gram of salvarsan into a volume of 2,500 c.c. of blood, then withdrawing 50 c.c. of blood (40 per cent. of which is useless), diluting this with an equal quantity of salt solution, and injecting the product into the spinal canal. The only way to prevent syphilis of the central nervous system is to call no case of syphilis cured until one can obtain a negative provocative Wassermann, a negative cell count in spinal fluid, a negative globulin test, and a negative Wassermann in the spinal fluid. A negative Wassermann on blood alone is useless.

Dr. Barton asked if Dr. Hough believes that the injection of salvarsan into the blood is absolutely necessary for obtaining a dilution of 606 suitable for intraspinous injection. From theoretical considerations it would seem that the only objection to giving the 606 directly is the fear of doing damage by this manner of exhibition. May it not be possible in the future to devise a way to safely dilute the salvarsan for intraspinous injection without the difficult and devious method of preliminary intravenous injection?

Dr. Hough was not prepared to explain the reaction between blood and salvarsan, but the fact remains that the best results are obtained in the treatment of syphilis of the central nervous system by the use of serum thus prepared. It seems essential that salvarsan shall be in contact with blood serum before it is



THOMAS CROGGON SMITH, M. D.
1842—1913.

effective against treponema pallida. He replied to Dr. Hagner that this history seemed quite clear in the case reported in which cerebral syphilis appeared so early after the chancre.

In Memoriam.

MEMORIAL ADDRESSES ON THE LIFE AND CHARACTER OF DR. THOMAS C. SMITH.

WEDNESDAY EVENING, OCTOBER 22, 1913.

PRESIDENT CARR: If there is no objection the regular order will be suspended and we will proceed with the exercises of the evening.

Familiar to many of us, Dr. Smith was a warm personal friend and physician both highly honored and respected, and I am sure that we feel his loss keenly.

First, we will hear from Dr. D. S. Lamb.

REPORT OF THE COMMITTEE ON MEMORIAL TO DR. T. C. SMITH.

Doctor Thos. Croggon Smith was born August 16, 1842, in Washington, where also he died July 23, 1913, in his 71st year. He was educated in the public schools of Washington and at Gonzaga College. He graduated in medicine at Georgetown Medical School in 1864, began at once to practice, and continued in practice until his final illness. He joined the Medical Society July 4, 1864, and was therefore a member of the Society as also a practitioner 49 years. When the Medical Society and Medical Association of the District were united in July, 1911, he became number 4 in the list of members by seniority of membership, being preceded by Drs. Warwick Evans, J. Ford Thompson and A. F. A. King. He served the Society as Corresponding Secretary from 1878 to 1880, was Vice President in 1881, again Corresponding Secretary from 1883 to 1887, was President of the Society in 1888, and again Corresponding Secretary from 1889 until his death; a total in this office of 33 years. He joined the Medical Association in 1866. He was a member of the Committee on Essays of the Society, and most of the time the Chairman, from 1884 to 1891, and from 1893 to 1913; and of the Board of Examiners one year, 1877. He was President of the Obstetrical and Gynecological Society of this District from 1897 to 1899; and was also a member of the American Medical Association. For some years he was Consulting Physician to Emergency Hospital and Consulting Obstetrician to Freedmen's Hospital, this city. He was a trustee of Dickinson College, Carlisle, Pa.; and President of the Board of Trustees of the Metho-

dist Home for the Aged in this city. He was for many years a member of McKendree M. E. Church.

Dr. Smith was a regular attendant on the meetings of the Society and active in its work. Of the many occasions in which he took a prominent part in the work the following may be mentioned:

In 1881 he took occasion to characterize the Library of the Society, as it was at that time, as a collection of old books that nobody read (which was practically true), and sought without success to have the books sold at auction or turned over to the Library of the Surgeon General of the Army. In 1886 he brought to the attention of the Society the fact that in the U. S. Pension Office the Commissioner was requiring physicians, in writing certificates of illness of employees of that office, to state therein the character of the illness; Dr. Smith sought to have the Society take some action in the matter; but after discussion it was informally concluded to refer the matter to the Medical Association. In 1887, as Corresponding Secretary and Chairman of the Committee on Essays, he asked instruction from the Society in regard to inviting gentlemen, not members of the Society, to address it on interesting topics. The discussion developed the fact that members favored the proposition, but no action was taken. Again, in 1889, he brought up the matter, and the Society authorized the Committee on Essays to extend such invitations to gentlemen not resident in the District. In 1894, at the 75th anniversary of the founding of the Society, he read a paper entitled "The History of the Medical Colleges of the District of Columbia." He was one of the 25 members who in 1902 made up the sum of $250.00 as a prize, which was won by Dr. F. P. Vale.

Dr. Smith took a peculiar pleasure in calling the attention of the Society from time to time to the fact that some member had been a member or a practitioner of medicine for 50 years or more, and in moving the congratulations of the Society. It is somewhat pathetic that he himself failed to reach the 50-year mark and to receive the felicitations of the Society.

Dr. Smith died after a short illness, in which he was attended by Drs. McLaughlin, Acker, and W. E. Clark. The funeral services were held at the McKendree M. E. Church, and the esteem in which he was held was evidenced by the crowded auditorium. He was buried in Congressional Cemetery.

He leaves a daughter, Miss Alice C. Smith, and a son, Dr. Hugh M. Smith, the present Commissioner of Fisheries.

Your committee offers the following resolutions and recommends their adoption and that a copy of the same be transmitted to his family:

**Resolved* that in the decease of Dr. Thomas C. Smith the Medi-

* The resolutions were unanimously adopted October 22, 1913.

cal Society has been deprived of one of its most useful and honored members, one whose prolonged and faithful service in the capacity of Corresponding Secretary during thirty-three years has largely contributed to the success and prosperity of the organization and to the promotion of its usefulness;

Resolved that in the death of Dr. Smith the Medical Society deplores the loss of one who by his genial good nature and kind disposition won the highest personal regard of his associates, who will ever hold his memory in sincere respect and affection. We earnestly lament his loss and respectfully tender to his bereaved family our sincere condolence and sympathy.

D. S. LAMB,
A. F. A. KING,
T. N. MCLAUGHLIN,
Committee.

DR. LAMB said:

As Chairman of the Committee on Memorial to Doctor Thomas C. Smith, it is appropriate that I should add something to the formal report of the Committee. But inasmuch as Dr. S. S. Adams will tell you of Dr. Smith as a man, a citizen and a Christian, it remains for me simply to speak of my own association with Dr. Smith.

I remember him as an acquaintance of many years ago, dating back almost to the time of my own admission to the Society. My connection with the Army Medical Museum brought me in contact with many physicians of this city, Dr. Smith among the number. The Museum then, as now, was the recipient of pathological specimens, removed by operation during life or after death. I was frequently invited to do this post-mortem work, and now and then I did it for Dr. Smith. I recall that he had especially many cases of ectopic pregnancy that terminated fatally, as years ago most of them did; so that then it was no reflection upon the attending physician that such cases died.

It was soon after he was first made Corresponding Secretary that he said to me something like this: "Dr. Lamb, I haven't much for next Wednesday night, can't you show some specimens to the Society?" Similar requests with greater or less frequency have been made ever since, as late as last Spring. In this way I got into the habit, and the Society has good naturedly tolerated the habit, which is hard to break.

In the manner that I have said I became pretty well acquainted with Dr. Smith, and in course of time, as I have reason to know, there was a good deal of affection between us.

Affection never was wasted;
If it enrich not the heart of another, its waters returning
Back to their springs, like the rain, shall fill them full of refreshment.

To my mind Dr. Smith had many good qualities. He had

strong convictions and the courage of them. He was prompt to express himself. He was not inclined to compromise with evil. His conception of duty was high. He sought to be fair and just to all, regardless of race or condition. He had much of the charity that covers a multitude of sins. He was a clean man, courteous, affable, accommodating. He had a good deal of quiet humor, which sometimes he expended on me, but I do not hold it against him; it was harmless. I may mention one instance, namely, that he was wont occasionally to remind this Society that I was the worst penman in it; but I noticed that after Dr. Tom A. Williams joined, I took second place. It is said that we should not speak evil of the dead; but I am free to say that for myself I know nothing against Dr. Smith.

He was an active man, up to his last illness. He died, as is said, in harness. I think that he rather wished as did Ovid, "When I die may I be taken in the midst of work"; "quum moriar, medium solvar et interopus." His eye was not dimmed nor his natural force abated.

> But he is dead.
> Two hands upon the breast, and work is done;
> Two feet crossed in rest, the race is run.

It is of interest sometimes to know how a man dies, and particularly what are his last words.

If in Doctor Smith's last conscious moments there was some word or act that merited perpetuation in our memory, I hope that we shall be informed. Dr. Smith had a religious creed, and in all probability held to it to the last. His creed contained the expectation of what we call, a future life.

> To die is landing on some silent shore
> Where billows never break, nor tempests roar,
> E'er well we feel the friendly stroke, 'tis o'er.

You all remember the words that Shakespeare put in the mouth of Hamlet:

> To die,—to sleep
> No more, and by a sleep, to say we end
> The heartache and the thousand natural shocks
> That flesh is heir to,—'tis a consummation
> Devoutly to be wished. To die—to sleep.
> To sleep, perchance to dream; ay, there's the rub.
> For in that sleep of death, what dreams may come,
> When we have shuffled off this mortal coil,
> Must give us pause.

Another has versed it thus:

> Our ingress in the world was naked and bare;
> Our progress thro the world is trouble and care;
> Our egress from the world will be, nobody knows where;
> But if we do well here, we shall do well there.

Serious as life is, death is even more so, if there is a life beyond. Longfellow tells us that:

> In the wreck of noble lives
> Something immortal still survives.
>
> "To live in hearts we leave behind, is not to die."

In this sense, therefore, if in no other, Dr. Smith still lives.

Dr. Kober spoke upon the theme:

Dr. Thomas Croggon Smith as Corresponding Secretary.

Mr. President, Members and Guests: We have met tonight to pay tribute to Thomas Croggon Smith by whose death the medical profession has lost a leader, the community an ideal physician and public spirited citizen, the social forces a Christian gentleman, and the Medical Society a Corresponding Secretary with a conspicuously meritorious record. In order to estimate his official work it may be well to present a brief outline of the growth of the Medical Society which on the 16th of February next will reach the ripe old age of 91 years. It is a pleasing reflection that only eleven other Medical Societies in this country are older, the oldest being the New Jersey Medical Society, which was organized in 1766; but our Society has the proud distinction of being the oldest scientific body chartered by an Act of Congress of the United States.

The membership has increased with the growth of the city. In 1819 it was 21; in 1838, 30; in 1874, 136; in 1884, 148; in 1894, 214; in 1904, 354; while today it is 590. The average attendance upon the meetings in 1838 was eight; in 1844, eight; in 1854, seven (only two meetings were held); in 1864, eighteen; in 1874, nineteen; in 1884, twenty-four; in 1893, forty-eight; in 1903, sixty-three, and in 1913, over ninety.

It can be safely stated that the proceedings of the Society during the ninety years of its existence reveal a careful record of the progress of medicine, besides being the repository of clinical histories and pathological specimens many of which are of great historical and scientific value. The pathological specimens and case histories presented by Dr. Lamb alone would fill several creditable volumes, and if some of our younger members could spare the time to analyze this material, valuable conclusions might be drawn from such a large collection of clinical data and pathological findings.

It may not be amiss to recall the fact that Alexis St. Martin, the famous Canadian, with his gastric fistula, was the first recorded presentation of the patient himself to the consideration of this body at a meeting on May 14, 1856.

Dr. Lamb, in the History of the Society, adds (p. 58), "A

special meeting was called for the purpose.. In spite, however, of the extraordinary character of the case, the meeting was but poorly attended." This is indeed surprising, since Dr. Beaumont's experiments on Alexis St. Martin resulted in so great a contribution to the physiology of digestion. The apathy of the local profession in this case is certainly in striking contrast with the enthusiastic meetings in 1902, when we heard the communication of the lamented Walter Reed who, with his brave associates, had demonstrated conclusively the causal relation of *stegomyia fasciata* to yellow fever, and disproved the theory that the disease could be conveyed in fomites or that it was contagious in the ordinary acceptance of the term. In March, 1903, we had again a large and appreciative audience when we listened to a paper by Col. Gorgas, who testified to the practical value of Reed's demonstration, as proved by the eradication of the scourge from Havana, and since so strikingly confirmed by the brilliant achievements on the Isthmus of Panama.

The marked contrast in the interest in the scientific work of the Medical Society between 1856 and 1902 is in a large measure due to the fact that in the meantime we had a Secretary, in the person of Dr. Smith, always alert to the needs of this body; his chief aim was to supply interesting and profitable programs, and he also possessed the faculty to inspire the necessary enthusiasm and attendance.

During the past ninety years we have had nearly fifty Presidents, but we have elected only about twenty Corresponding Secretaries. The exact number cannot be stated, as it is not known who served in 1831–33, 1836–37, 1849–59, and 1862–63. Dr. Smith occupied this position for 33 years; he was first elected in 1878 and served three consecutive terms. In 1881 he was chosen Vice President; in 1882 he was out of office but was again chosen Secretary in 1883, and served until chosen President in 1888. In 1889, after the expiration of his presidential office, he was reelected Secretary and held this position until the time of his death.

When we analyze the cause of this phenomenal tenure of office we must conclude that this was an instance of the office seeking the man, for during my forty years' connection with this body I never heard that our departed friend was seeking office; in fact, he impressed me as a Christian gentleman, who truly was from mean self-interest and ambition clear. The Society rewarded him for his excellent services by election to the highest office within its gift, and if the appreciation of his work had not been universal, this event would have afforded an excellent opportunity to sever his relations with the office of Secretary. The fact that the Society elected Dr. Smith without a dissenting vote for twenty-four consecutive years is not only a high tribute to Dr.

Smith and his peculiar qualifications for office, but also reflects great credit upon the good judgment of the Society.

In this connection it may be well to remember that the Secretaries are really the most important factors in shaping the destiny of any society, scientific or otherwise. In a body of this character, the stronger the men, the more they are blessed with good judgment, a keen insight into human nature, power to discern and encourage merit, personal attributes to make friends, and discountenance the formation of cliques and factions; such men if elected for a number of years will constitute stronger factors in the perpetuity and scientific work of the Society, than any other officer elected only for a single term.

Dr. Smith's experience was a genuine product (not what Osler called the bastard variety, which 25 years of practice may give to any man with an imperturbable countenance and a glib tongue), and so it was with the Secretaryship.

Up to 1866 no papers or specimens were read before this body by others than active members, and up to 1887 only eleven papers were read by invited guests, mostly by public officials. In 1887 Dr. Smith asked to be instructed as to how far he might go on his own responsibility in inviting gentlemen not members or licentiates of the Society to address this body on some live topic; no formal action was taken. In January, 1889, Dr. Smith again raised the question of non-members reading essays before the Society. The matter was postponed until February 13th, when the Essay Committee was instructed to secure papers from medical gentlemen eminent in the profession, from a distance, who might be visiting the city, but the committee should not extend invitations under other circumstances. All of which may be justly interpreted as indicating that Dr. Smith not only appreciated the benefits of such a procedure, but advocated ideas far in advance of the general membership. As a result the Society during the past fifteen years has come into contact with more of the leaders of the profession from at home and abroad than during all the previous years of its history.

One of the chief glories of this Society is the weekly meeting for eight months in the year, with almost unabated interest. It is not an easy matter to provide a scientific program which will appeal to every member, but no medical organization presents evidence of greater activity and better work. Indeed, many of our visitors from larger medical centers have favorably commented upon the number of meetings, the average attendance and the character of the work. There are, to be sure, a number of men who cannot appreciate the educational advantages of these weekly gatherings; but they forget that the merits of every prominent medical man in the city have been primarily demonstrated in this Society, and every man of note has also been conspicuous for

faithful attendance upon its meetings. Personally I wish to acknowledge my obligation to the Society for the many profitable evenings during my forty years of membership, nor can I refrain from declaring that whatever success many of us may have attained is largely due to the precept and example of men of Dr. Smith's type, whose steadfast purpose to keep abreast with the progress of medical science, could not fail to make a deep and lasting impression upon the younger minds.

It is given to but few men to have led a greater life of usefulness; the history and progress of the Medical Society is intimately connected with Dr. Smith as Corresponding Secretary and Chairman of the Program Committee, and we may well exclaim: "Well done, good and faithful servant, the world is better for having known him."

Dr. A. F. A. King spoke of

Dr. Smith as an Obstetrician.

In the death of Dr. Smith the Medical Society has lost one of its most honored and useful members, a good friend, and a beloved associate.

I have been requested to say a few words with regard to his career as an obstetrician. It was, perhaps, in the domain of obstetrics that Dr. Smith accomplished his principal work as a medical practitioner, though he did general practice also, and some surgery, especially in gynecological and obstetric cases.

In his numerous contributions to the literature of obstetrics he has left "footprints on the sands of time" that will not be easily effaced.

Most of his writings were of a pronouncedly practical character, consisting chiefly of rare and interesting cases coming under his own observation. To these he sometimes added similar cases reported by others, and, quoting their opinions as to the results of different methods of treatment, reached logical conclusions as to what he considered the best methods of procedure.

With his characteristic modesty but few of his publications were distributed as reprints. The Index Catalogue of the Library of the Surgeon-General's office—in both the first and second series—so far as I can discover, contains only ten reprints; but he also contributed to the journals, and to the Washington Obstetrical and Gynecological Society, many other papers, that were not reprinted.

One of his most notable and elaborate productions was an Essay on *"Antepartum Hour-glass Contraction of the Uterus,"* the basis of which was a case of his own in which dystocia had been produced by this cause. The paper was printed thirty-one years ago (in the *Amer. Jour. Obstet.* for 1882), and, up to the date

of its appearance, probably no better presentation of the subject had been published.

Among the more rare cases reported by Dr. Smith, were the following: "Sarcoma and Multiple Mucous Polypi of the Uterus in a child;" "Intra-uterine amputation of the fore-arm;" "Intra-uterine fracture of the humerus;" "Pregnancy with pin-hole hymen;" "Complete Inversion of the Uterus;" "Case of Uterus bilocularis unicollis;" "Case of Excessive Secretion of Milk;" "Calcareous deposits in the Placenta;" "Hydrorrhœa;" "Hypertrophic Elongation of Cervix Uteri obstructing labor;" "Tetanus following Abortion."

And there are many other reports of cases, and papers on interesting obstetrical questions, upon which I need not dwell.

In all of his work—whether clinical or literary—Dr. Smith was preëminently practical. He seldom indulged in theories or speculation, and in my own opinion (whether correct or otherwise) he never seemed to have any very lavish regard for either theories or theorists; he was very apt to view the ideas of the latter with unsparing ridicule and to demand clinical proof, or demonstration, which was of course just and proper. Ridicule has always been an acknowledged weapon in logical argumentation, but those of us, whether in the Medical or Obstetrical Society, who have had the pleasure of listening to discussions participated in by Dr. Smith during the passing years, will recall how considerately he always tempered his weapons of attack with the kindest feeling and good-will. Indeed, on occasion, he seems to have anticipated the wound he was about to inflict on his opponent by apologetically disclaiming, beforehand, any intention of doing so. Thus in the discussion of his paper on "*The Use of Ergot in the second stage of Labor,*" he scores a colleague who had given too much ergot in a forceps case, in the following language: "Without meaning to be either sarcastic or facetious I would ask if Dr. ——, in using the agents he mentioned, would have used force enough, in compression, to have reduced the child to a jelly, or have given 240 grains of quinine to overcome the uterine inertia? And yet this is the way ergot was used and blamed because it exerted a toxic effect." Yet we may be sure this severe rebuke was administered with a wreath of smiles and exuberant good-nature. His worst thrusts were always mingled with the anesthetic of complacent good-humor and loving kindness; his antagonists enjoyed them quite as much, and perhaps more, than he did himself.

It may be learned from those who knew Doctor Smith with more personal intimacy than it was my privilege to have, that he availed himself of all those factors which contribute to produce men of the best type. His life was a life of altruism rather than egotism; of self denial, not self indulgence; of humility, not

vanity. He was a staunch advocate of temperance with regard to intoxicating drinks, both in principle and practice, himself having been always a total abstainer. He never used tobacco. He was a loyal adherent to the religious faith of his fathers; and the ethical principles by which the conduct of his life was governed, were probably determined by that fear of God and good will to men which is the beginning and consummation of wisdom.

It was not an uncommon remark of Dr. Smith's, in contemplating the mistakes of his fellow-men, to say: "We all love him," as if this were a sufficient excuse for any practical errors or theoretical vagaries with which the fellow-man in question may have become chargeable.

It may truly be said, we all loved Dr. Smith, and remembering his sterling integrity and fidelity, his professional accomplishments and ability, together with those still more attractive qualities of gentleness and kindly consideration for others, which were so conspicuously characteristic of his disposition, we shall always honor his memory with sincere admiration, affection and respect.

Dr. Smith as a Man, a Citizen, and a Christian.

Dr. S. S. Adams said:

Mr. President, Ladies and Gentlemen: I consider that the Society has conferred upon me one of the greatest honors of my life in asking me to speak to the character of a man like Dr. Smith; I consider it doubly so since he was one of the first to greet me upon my entrance into the medical profession. He served during my early childhood in the Patent Office, under my father, and as soon as I had graduated, or soon thereafter, on my first appearance at this Society, he extended his hand and greeted me most affectionately as a member of the Society and of the medical profession. Under such circumstances, my heart is in the theme, but whether I can adequately express the feelings which I have for the man, will remain to be seen.

Citizenship in the broadest sense of the word must be attributed to Dr. Smith. He did not enjoy the franchise, because citizens of the District of Columbia have always been without it save for a short time, and then many of the respectable citizens of the District of Columbia were ashamed that they had voted. Dr. Smith was a public-spirited man in everything that required his coöperation, in everything that tended to the upbuilding of the city and its territorial improvement. He was in the fore rank of those who were trying to subserve the best interests of the community, and seldom objected to their methods. He was a man always ready, always willing to lend financial assistance at the proper time.

The second attribute of Dr. Smith is that of being a Chris-

tian. There are so-called Christians who are obnoxious; there are Christians who are modest. Those who are modest usually carry force with their modesty, and therefore this man was of that character. His Christian duty in his church was well known. I heard today from a prominent member of the church that he was always at his post, served his church well, and was unflinching in matters brought before that body—always standing up for what was right. To the Methodist Home for the Aged Dr. Smith extended the kindly hand, and whenever there was anything which required money he would say "Have it done and I will pay for it." Such acts we cannot but term acts of Christian manhood. Dr. Smith was not only a good citizen and a good Christian, but he was more; he was a man and Christian in the broadest sense of the word, a man who was not afraid to express his opinion on any subject, and express it clearly, concisely and forcibly, and without giving offense.

There was also a spirit of humor in Dr. Smith. Some years ago we had in the city a social gathering composed of twenty members, known as the Fortnightly Club. At this club no one was permitted to speak on medical subjects, and there were never any medical subjects debated in it. The club met twice a month, and its members had the privilege of inviting persons outside of it. Dr. Smith was a frequent visitor at these Fortnightly Club meetings. He always enjoyed them. As you all know he was quite a temperance man, and always stuck closely by its principles. On one occasion, on a table in the dining room at the Fortnightly Club, he espied a glass filled to overflowing with brandied cherries, beautiful to behold. Several members of the club walked up to the table and took cherries from the bowl and ate them. Dr. Smith in turn walked up and picked a cherry from the bowl, but as soon as he had tasted the brandy in it, he immediately tossed it in the cuspidor. After that these brandied cherries were known in the Fortnightly Club as the "Thomas Smith Cocktail."

Dr. Smith as a friend was very sensitive; you may not have known it. He was very sensitive to the opinion of his fellow practitioners. I enjoyed his confidence from the early stage of my introduction into this Society. I kept that confidence through his life. Just before I left the city in June, Dr. Smith telephoned to me and said that he wanted to see me. He came up about noon. I saw that something was on his mind. He came into the office and said, "Adams, read this letter." I read the letter. It was written by a member of the Society who had not had his paper read at the time that it was to have been read; there was too much on the program and the paper had gone over. He had gone home and sat down and written a scathing letter, accusing Dr. Smith of discrimination, and using terms that were not at all gentlemanly. Dr. Smith said, "What would you do?" I said,

"Smith, that man was angry. He would not have written that letter had he not been angry. You put him on the program for the next meeting, and he will read his paper and will send an apology." Dr. Smith did so, and at the next meeting the man made the most lengthy apology and said that he was altogether mistaken about the matter. This shows the good Christian character of Dr. Smith. He was forgiving, but he wanted somebody else to help him decide the matter. In his dealings with members of the Society he was always fair—there could have been no one fairer than he in the administration of the Secretary's office. Those who have not been Corresponding Secretary cannot appreciate as those who have been, the trials and vexations of this office.

Mr. President, as I have said, Dr. Smith was a good citizen; he performed every duty that was incumbent upon him; he was a Christians and attended well to his religious duties and to his duties to the Medical Society; he has not left anything undone that he could possibly have done in his life; he lived to see the fruition of success and received the encomiums of this Society. I cannot be fairer than to say that Dr. Smith lived a Christian and died a Christian.

Dr. J. Ford Thompson said:

Mr. President, Ladies and Gentlemen: If I had thought that I would be called upon this evening to pay tribute to my friend Dr. Smith, I should have endeavored to prepare something worthy of him and of the occasion.

It has been my lot in the last fifty years to see pass away men of all the different characters, of all the different endowments, and of all the other qualities that men can possess, but never have I felt in all of my experience a greater grief and a greater shock than when I learned by chance, while visiting away from the city, of the death of a member that we all regarded as our friend, and who was a grand man and grand physician. After seeing so many pass away it would seem that one would become indifferent to ceremonies of this kind, but I shall not live long enough for the feelings of this evening or those produced by the death of Dr. Smith to abate one iota.

In the last few years, in which I have been somewhat of an invalid, I have been entertained every birthday by a personal visit or a letter from Dr. Smith, and some of the letters were couched in such kindly expressions that I have stored them away among the few papers that I retain. In reading them over I see that I was held at least in esteem by one whom I had always regarded as the best of friends. It is useless for me to refer to Dr. Smith as an officer of this Society. You are all familiar with him. He was one of the quartette of the "Old Guard," and I

believe that all the others of that quartette are present before me this evening, and probably he was the youngest of that quartette. For many years he was among those who most promptly and constantly attended the meetings of this Society, which I know we all love equally well. He was rarely absent, and made this Society a good Corresponding Secretary.

But it is that to which Dr. Adams referred that I appreciate most in the life and character of Dr. Smith—he was a Christian. I have watched his career from the beginning to the end, and I have always thought how happy would I be if I were only half as good a Christian as Dr. Smith. He was a man devoted to all the phases of life, but seemed to have but one object in life—to afford pleasure and happiness to those around him. I have seen him in the sick room, and his kindness of heart and unselfishness were cheering to all. He was one of the most unselfish men I ever knew. There are many men in our profession well suited to their specialties or their general work, but there are very few men endowed with those qualities which really and truly suit them to the charitable life that a physician should lead. In my whole life I have never seen nor heard Dr. Smith express one idea or one thought that was not worthy of the highest Christian sentiment. He was intelligent; he was ambitious to succeed in the profession. My admiration for the man is simply endless, and I am sorry, as I said before, that I was prevented from writing something down that would really express much better than I can in this extemporaneous manner my regard for my friend Dr. Smith. While the memory of other departed friends is not lost, I feel confident that the memory of Dr. Thomas C. Smith will live for many years, and we will look upon him as a model physician, whose life is a lesson and an example to all young men.

The President: We appreciate Dr. Thompson's remarks very much, and I am sure that they could not have been any better had he written them out beforehand; perhaps not as good.

We would be glad to hear from any others who may desire to speak.

Dr. A. Behrend said:

Mr. President, and Members of the Medical Society: I can only endorse what has already been said here concerning our friend, Dr. Smith. My association with Dr. Smith has been splendid. I have known him, I suppose, forty-five years or more, and I must say that in all of his actions I thought he was one of the most exemplary men and physicians that I ever met. I shall greatly miss him.

THE PRESIDENT: There is one thing that might be said about Dr. Smith that has not been mentioned, and that is his kindness and help to young men in the profession. When I was a young man just starting in the profession, there was no one who treated me with more kindness and who gave me more help than did Dr. Smith, and I am glad to say that he kept it up to the last.

Are there any others who would like to speak?

DR. L. B. THOMSON said:

I think that I have known Dr. Smith, probably eighteen years or more. He always called me by my first name, and never called me by anything else. It was always "Good morning, Lewis," with him. It gives me the greatest pleasure to say that he gave me a new lease of life at one time. I think that I was one of the last to see him on earth. I met him one morning just before he was taken ill. I loved Dr. Smith very much, and shall miss him greatly.

The following letters were read:

From DR. JOSEPH TABER JOHNSON.

"It hardly seems possible that Dr. 'Tom' Smith is dead. I was never more surprised and grieved at the death of a colleague, for he was my friend and I loved him. Just a little while ago I received one of the kindest and sweetest letters from him that ever one man received from another.

"It seemed as if he must have had a premonition of his approaching death, and wanted to say some of the things which were in his heart while he had the strength and opportunity.

"Dr. Smith graduated only two years before I did, and we were more or less intimately associated for nearly fifty years, and I am more than glad to say, on this sad occasion, when we are meeting together to do honor to his memory, that I never in all my association with him heard him say a mean word or knew of his ever doing a mean act to anybody; but, on the contrary, there are none among us of whom it could be more truly said, that his life and works exemplified the teachings of the Good Physician. May we all leave as good a record when it comes our time to go, and be as sure of a happy hereafter as we are sure of that of our departed friend and brother."

From DR. GEORGE TULLY VAUGHAN:

"I regret that absence from the city will prevent my attending the memorial meeting to Dr. T. C. Smith, but I should like to add just a few words to what will be said on that occasion.

"I have known Dr. Smith for about twenty years and always found him cheerful, gentle, courteous and conscientious. He was the kind of man who confers honor on the profession to which

he belongs and makes the world better for his having lived. No sign of jealousy or detraction of his fellow physicians ever marred his character; no commercialism in his practice. He always put first the interests of his patient and his profession. He was indeed a man and a physician of the right school, old or new, in whose heart there was no guile."

DR. MONTE GRIFFITH.

WHEREAS,* the Medical Society has learned with deep sorrow the death of Dr. Monte Griffith, which occurred on the 11th of July, we wish to express our regard and admiration of his unusual professional attainments, his unblemished character, his charming genial personality, and the unselfish steadfastness of purpose which he displayed in the accomplishment of many lofty undertakings.

Dr. Griffith was born in the Valley of the Shenandoah, near Berryville, Va., in 1862, during the troublous times of the Civil War, and reared during the reconstruction period. He did not find it expedient to take up the study of the profession of his choice until after he was thirty years of age, and graduated in medicine at the University of Maryland in 1896. The markedly successful career that ensued until March, 1911, when his last illness began, has seldom been equaled. Not often does one accomplish as much as he did in so brief a span of professional endeavor. He was a success from every angle that we regard him and we deplore his untimely departure from our midst. One had only to study his character, observe his personality and intellect, and consider his unusual energy, to explain why the world is better for his having lived.

His cheerfulness and patience exhibited at all times during his long period of physical incapacity was an object lesson for good to those of us who came in contact with him and taught us that, in the words of Kipling,

> He could make his heart and nerve and sinew
> Serve their term when they were gone,
> And hold on when there is nothing in him
> Save the Will that said—Hold on!

To his bereaved family and immediate friends, the Society tenders its profound sympathy.

(Signed:) C. C. MARBURY,
A. BARNES HOOE,
WALTER A. WELLS,
Committee.

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* The report was unanimously adopted by the Medical Society October 8, 1913.

DR. FRANCIS XAVIER DOOLEY.

Among the number of the illustrious dead we must now add another who has passed from our ranks to the great beyond, that of Francis Xavier Dooley, who died at his late home 1346 T St., N. W., August 10th, 1913, aged 72 years.

Our colleague was born in Washington, D. C., May 11th, 1841. He was a graduate of the Medical Department of Georgetown University, and received the degree of Doctor of Medicine in 1865.

He was also a pharmacist and followed that profession for many years; for the past 25 years he has been in active practice.

On October 13, 1874, he married Miss Sarah C. Rutherford, who with one daughter and three sons survive him.

Dr. Dooley was a man of good judgment and a very worthy citizen.

WHEREAS,* in His infinite wisdom it has pleased Almighty God to remove from among us by death our late associate Dr. Francis Xavier Dooley, therefore be it

Resolved, That the Medical Society of the District of Columbia regrets the death of Dr. Dooley as a member of the medical profession and a valued citizen.

Resolved, That this testimonial of respect be entered upon the records of the Society, and a copy of the same be forwarded to the bereaved family.

(Signed:) FRANCIS A. ST. CLAIR,
EDWIN L. MORGAN,
W. ASHBY FRANKLAND,
Committee.

PROCEEDINGS OF THE MEDICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Wednesday, October 1, 1913.—The President, Dr. W. P. Carr, presided; about 83 members present.

Dr. G. Wythe Cook, from the Executive Committee, reported the following recommendations:

1st. Dr. T. J. Kemp having tendered his resignation under pressure of being under ill-repute, we recommend to the Medical Society that his resignation be accepted for the good of the Society.

2d. That an election be held on October 8, at the regular meeting, to fill the office of Corresponding Secretary, and that due notice thereof be given on the program cards.

The report and recommendations were adopted.

* The preamble and resolutions were unanimously adopted by the Medical Society October 15, 1913.

The Treasurer was authorized to settle the account of Dr. T. C. Smith for expenses incurred as Corresponding Secretary.

Dr. W. C. Borden called attention to the absence of any provision in the Medical Practice Act of this District, governing the requirements for premedical education, such as are now demanded by medical schools of the better class. The Executive Committee was instructed to consider the matter and report suitable recommendation.

The following deaths were announced and committees appointed by the Chair: Dr. Thomas C. Smith; Committee, Drs. D. S. Lamb, A. F. A. King and T. N. McLaughlin. Dr. Monte Griffith; Drs. W. A. Wells, A. B. Hooe and C. C. Marbury. Dr. F. X. Dooley; Drs. E. L. Morgan, F. A. St.Clair and W. A. Frankland.

On motion of Dr. A. B. Hooe it was ordered that a meeting should be set aside for a memorial to Dr. Smith.

A letter from Dr. H. M. Smith was read expressing appreciation by Dr. Smith's family of the expressions of regard and sympathy of the Society.

A letter from Dr. G. G. Freeman, Surgeon, U. S. Navy, was read regretting that his transfer from Washington would interrupt his attendance at the meetings of the Society and expressing his appreciation of the courtesies shown to him.

A resolution proposed by the late Dr. Griffith, suggesting a limitation of the quantity of bichloride of mercury in tablets, was referred to the Executive Committee.

The Treasurer read a list of members in arrears for dues; the list was referred to the Executive Committee for consideration and recommendation.

Dr. D. S. Lamb presented specimens of *Gastric Ulcer*, with comments on the histories of the cases. Dr. Lamb remarked that the size of a gastric ulcer is not necessarily its most serious feature, nor is its depth; for among the specimens, in the only one which of itself caused death, which was from hemorrhage, the ulcer was so small and so shallow as to be almost undiscernible.

Dr. I. S. Stone presented a specimen of *Degenerating Uterine fibroid* with history.

The specimen was removed from a young colored woman, who was operated upon for an obscure acute painful condition in the right lower quadrant of the abdomen; the right appendages had been removed fifteen years before and the vermiform appendix was suspected of being implicated in the present condition. It was known that the fibroma was present. The operation revealed a submucous fibroid, which was undergoing degeneration and which was the sole cause of the acute symptoms. Why should this degeneration occur? The patient was young and healthy; the mass was not pedunculated and there was no chance for torsion of a pedicle. The red degeneration of pregnancy described

by Fairbarn comes to mind as a possible explanation ; a condition which appears in fibromata early in pregnancy and occasions pain and evidences of sepsis.

Dr. A. B. Hooe said that even greater interest would attach to Dr. Stone's case if the condition of the uterine bloodvessels had been noted. Several years ago he had reported three cases of obstinate uterine hemorrhage occurring in women of 25, 30 and 40 years of age, respectively ; the only explanation of the hemorrhage was uterine arteriosclerosis, independent of any general arterial degeneration. This same condition could account for the necrosis which had begun in the fibroma exhibited by Dr. Stone.

Dr. Jack said that the possibility of a mechanical cause of the necrosis in this case should be borne in mind ; degeneration of fibromata has often been seen to follow efforts of the uterus to expel the mass.

Dr. Stone said that he would have the specimen examined to determine the condition of the uterine vessels ; he suspected that Dr. Hooe's explanation was the correct one.

[October 15 Dr. Stone reported that the examination showed necrosis and inflammatory change, due probably to infection.]

Dr. J. B. Nichols read the paper of the evening, "Diet in Gastric Ulcer." Discussed by Drs. Roy, Jack, Verbrycke, Frankland, Mallory, W. P. Carr and Nichols. See page 279.

Wednesday, October 8.—Dr. Carr presided ; about 110 members present.

The Treasurer reported for June, July, August and September, receipts, $519.30 ; disbursements, $482.52.

The resignations of Drs. J. D. Thomas and Mackall from the Executive Committee were presented, but the Society requested their withdrawal.

The Committee on Memorial to Dr. Smith was authorized to appoint the date of meeting and arrange the program.

Dr. Marbury from the Committee on memorial to Dr. Monte Griffith, made report which was adopted and the Secretary directed to send a copy to Dr. Griffith's widow. See page 331.

Dr. Prentiss Willson was elected Corresponding Secretary for the unexpired term.

The resignation of Dr. T. J. Kemp was accepted.

Dr. Randolph presented specimens from a case of *Leukemia* and one of *Tuberculous peritonitis*. Discussed by Drs. Briggs and Randolph.

Dr. Chipman read a paper "Nitrous oxide and oxygen anesthesia." Discussed by Drs. Roy, A. L. Hunt, P. Willson, R. Y. Sullivan, Carr, Kearney and Chipman. See page 299.

Wednesday, October 15.—Dr. Carr presided ; about 100 members present.

Dr. E. L. Morgan, from the Committee on Memorial to Dr. Dooley, made report which was adopted. See page 332.

The Corresponding Secretary was authorized to invite Dr. Adolph Schmidt of Halle, Germany, to address the Society, and the Program Committee to arrange for a smoker in his honor.

An appropriation of $3.50 was made, a balance due Dr. T. C. Smith, for expenses incurred as Corresponding Secretary.

Dr. Briggs presented specimens of *pathological kidneys* with report of a case, and a commentary on uremia. Discussed by Drs. Hagner, Bovée, R. A. Hooe and Briggs.

Dr. J. R. Verbrycke read a paper "Obstructions about the pylorus," and showed illustrative radiographs by the stereopticon. Discussed by Drs. Groover, Mallory and Verbrycke. See page 281.

Wednesday, October 22.—Dr. Carr presided; about 95 members present, as also Dr. H. M. Smith, the son of Dr. T. C. Smith. Memorial meeting to the latter.

Letters were read from Drs. J. Taber Johnson and G. T. Vaughan.

Dr. D. S. Lamb read the report of the memorial committee and made remarks, followed by Dr. Kober, on Dr. "Smith as Corresponding Secretary," Dr. A. F. A. King on "Dr. Smith as an Obstetrician," and Dr. S. S. Adams on "Dr. Smith as a Man, a Citizen and a Christian."

Drs. J. Ford Thompson, A. Behrend and L. B. Thomson also made remarks.

The report and resolutions were adopted. See page 317.

Wednesday, October 29.—Dr Carr presided; about 125 members present.

The resignation of Dr. J. D. Thomas from the Executive Committee was accepted.

The following were appointed by the Chair a committee to investigate the prevalence of venereal diseases in the District of Columbia: Drs. H. H. Hazen, H. A. Fowler, J. Taber Johnson, Chappell and Roy.

Dr. A. B. Hooe stated that the Medical Society of Virginia would hold its annual meeting in October, 1914, in Washington, and moved the appointment of a committee to extend a welcome from this Society. Drs. Hooe, Roy and Shands were appointed by the Chair, with power to enlarge the committee.

The Corresponding Secretary announced that Dr. Schmidt would be in Washington Tuesday, November 11; on motion that date was ordered for the meeting of the Society instead of Wednesday.

Dr. R. A. Hooe presented a case and a specimen of *Tuberculosis of kidney.*

The patient was a colored man, aged 37; first seen at the

Genito-urinary clinic at Freedmen's Hospital, July 29, 1913. His family history was negative; his previous history included the fact that on Dec. 15, 1912, he entered Garfield Hospital, and was under the care of Dr. Hagner at that hospital until May, 1913. For what condition he was treated there was not ascertained, but it was clear that Dr. Hagner had operated for some intrascrotal disease, there being a scar over the left testicle. The external genitalia were otherwise normal, the prostate and seminal vesicles also were apparently normal. His principal symptoms were, urgent, painful and frequent micturition, and pain over the bladder. The urine contained albumen, pus, blood, cocci and bacilli; tubercle bacilli were not found, though carefully searched for. On August 15 cystoscopy was done; the bladder was found inflamed, capacity normal; the base was inflamed, ulcerated and studded with tubercles; the trigone was distorted; tubercles were also to be seen on the anterior bladder wall; the right ureter was distorted, the orifice presenting the cavernous appearance characteristic of this condition. Both ureters were catheterized; the left urine was slightly alkaline, otherwise normal; the right urine was slightly alkaline, showed a marked trace of albumen, some blood cells, pus cells, a large number of cocci and bacilli, but no tubercle bacilli. Four days later the ureters were again catheterized, and an x-ray photograph taken with a catheter in the right kidney; the catheter shadow can be seen in both poles; later another radiogram was taken after injecting 10 c.c. of 50 per cent. argyrol solution; the shadow of this solution can be plainly seen in the two poles. Dr. H. A. Fowler confirmed the diagnosis. August 22 the kidney was removed by the usual incision; the ureter was severed by cautery; the stump dropped back; the pedicle was ligated with chromic gut. Recovery was uneventful; the symptoms were much relieved after operation, but he now has undoubtedly right tuberculous epididymitis and will ultimately die.

A point of great interest, especially for the internist, is that this was one of a large group of cases in which grave kidney lesions may exist with the symptoms all pointing to vesical disease. In such cases the diagnosis can be reached only by the use of the cystoscope and the ureteral catheter.

Dr. F. R. Hagner was unable to recall the circumstances attending this patient's stay at Garfield Hospital. The several points advanced by Dr. Hooe he heartily endorsed; one fact of importance was not mentioned, namely; the removal of a tuberculous kidney will often cure the tuberculous process in the bladder; at any rate, the nephrectomy offers the only hope for curing the bladder tuberculosis and should always be resorted to when possible. Some of these cases of bladder tuberculosis afterwards develop pulmonary tuberculosis, but it is rare to find vesical tuberculosis in primary pulmonary tuberculosis; this

matter had been the subject of study at the Tuberculosis Hospital and Dr. Kinyoun had found only one case in 85 autopsies. He was glad to emphasize Dr. Hooe's plea for careful consideration of the kidneys in obscure cases with only vesical symptoms; genito-urinary surgeons are apt to feel rather strongly about this matter because it is such a common experience for them to encounter cases that have been going on for months under physicians' care, with pyuria constantly present, but without having the cystoscope employed to determine the exact origin of the pus.

Dr. G. B. Miller said that another point of interest hinged on the double infection, there being present in the urine cocci and bacilli other than the tubercle bacillus. Which infection was primary? This patient had been operated upon in another hospital some months prior to his entrance to Freedmen's; could his kidney have become infected at that time from the bladder and have become tuberculous secondarily? In the few cases of kidney tuberculosis in women which had come under Dr. Miller's care, the tuberculosis was primary; but the other sequence is possible.

Dr. Balloch said that it seemed pertinent to mention that the urine was alkaline. It is usually acid in tuberculous pyuria. This fact might serve to indicate that there was a primary pus or colon infection.

Dr. J. T. Wolfe said that mention had been made of finding blood in the right ureteral urine; was any found in the whole urine? Also, the history mentioned pain which was limited to the region of the bladder, and which had appeared only fifteen days prior to the admission of the patient to the hospital; it would be interesting to know if this marked the date of infection of the bladder. He inquired what was the character of the temperature curve. He was particularly interested in the symptom of hemorrhage, because of a case of persistent hematuria which had come under his care. This man was seen in Roanoke, Va., whither Dr. Wolfe had been summoned to attend him; the patient had been in the hands of many genito-urinary surgeons in many different cities. The particular point of interest which Dr. Wolfe wished to bring out was the fact that two injections of normal horse serum served to entirely cure the trouble. The diagnosis no doubt rested upon a bleeding point with accompanying low coagulation power.

Dr. Hooe expressed thanks for the generous discussion of the case, and remarked that the kidney had been sectioned four days after the injection of argyrol; the stain was still well marked in the pelvis. There were several pus cavities in the kidney, the pus from which contained many tubercle bacilli; the failure to find the bacilli in the urine suggests that when such cavities are discharged into the pelvis of the kidney the tubercle bacilli are

washed out and disappear. Thus inoculation of guinea pigs might not give conclusive results, and would not, anyhow, in this case, because the patient also had tuberculosis of the lungs. Dr. Hooe replied to Dr. Wolfe, that blood had been found in the bladder urine; he believed that the mixed infection was secondary and occurred after the ulceration of the bladder. The alkaline urine had aroused a suspicion that the infection was mixed; acid pyuria is found only in tuberculosis of the kidney uncontaminated by other infection. He could not agree with Dr. Hagner in the opinion that renal tuberculosis is not secondary to the pulmonary form; in Dr. Hooe's opinion nearly all tuberculosis is secondary to pulmonary infection.

Dr. D. S. Lamb presented the following specimens:

Fibroma of ovary. See page 299.

Thoracopagus.—This was a male, well developed and weighed 9 pounds, 3 ounces; one individual was somewhat larger than the other. The junction was by the sternums and there was no deformity otherwise. This is the commonest form of double monster; the heart usually is single but shows some duplicity; there are four lungs; two livers, that are partially joined; intestinal tract to some extent single; stomach, spleen, pancreas, kidneys and internal genitals double. These monsters are nearly always born dead, partly because of the difficult labor. Some cases like the Siamese twins live to grow up.

The specimen presented came from the Canal Zone; from a colored woman age 19, primipara. The labor was instrumental, but it is stated that there was no laceration; recovery uneventful. The Army Medical Museum has quite a number of these monsters.

Dr. W. S. Hough read a paper on "Intranspinous injections of salvarsanized serum in the treatment of syphilis of the nervous system, including tabes and paresis." Discussed by Drs. W. A. White, T. A. Williams, H. J. Nichols (U. S. A.), Hagner, Simpson, Barton and Hough.

LOGICAL.—"Mamma, I'se got a stomach-ache," said Nellie, six years old.

"That's because your stomach is empty; you've been without your lunch. You'd feel better if you had something in it."

That afternoon the pastor called and, in the course of conversation, complained of a very severe headache. "That's because it's empty," said Nellie. "You'd feel better if you had something in it."

WASHINGTON MEDICAL ANNALS.

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Editorial.

HISTORY OF THE MEDICAL SOCETY OF THE DISTRICT OF COLUMBIA.—Price $1.00, with 25 cents added if delivered in this city or sent by mail. Address Dr. C. W. Franzoni, 605 I Street, N. W. The books are in the custody of Dr. D. S. Lamb, at the Army Medical Museum.

THE WASHINGTON MEDICAL ANNALS, the official organ of the Medical Society of the District of Columbia, issued the first of January, March, May, July, September and November, will publish gratuitously such information of a medical, surgical and sanitary character, changes in personnel, &c., of hospitals, dispensaries, medical schools, medical societies and other medical agencies, as would be useful and interesting to the members of the Society. Address the Chairman of the Committee on Publication, Dr. D. S. Lamb, 2114 Eighteenth St., N. W.

THE OTHER MEDICAL SOCIETIES OF THE DISTRICT OF COLUMBIA.

MEDICAL AND SURGICAL SOCIETY of the District of Columbia.—President, H. P. Parker; Vice President, D. P. Hickling; Secretary and Treasurer, L. Eliot; Recording Secretary, L. C. Ecker; Executive Council, A. R. Shands, O. A. M. McKimmie, L. Eliot, E. P. Copeland and L. H. Reichelderfer.

SOCIETY OF OPHTHALMOLOGISTS AND OTOLOGISTS, WASHINGTON, D. C., 1913–1914.—Officers: President, J. J. Richardson; Vice President, L. S. Greene; Secy.-Treas., A. B. Bennett, Jr.

Membership.—Active Members: Drs. A. B. Bennett, Jr., J. H. Bryan, W. K. Butler, John W. Burke, Virginius Dabney, H. S. Dye, L. S. Greene, F. M. Chisolm, Carl Henning, A. H. Kimball, R. S. Lamb, F. B. Loring, O. A. M. McKimmie, W. P. Malone, W. B. Mason, M. E. Miller, S. B. Muncaster, Mead Moore, W. S. Newell, H. A. Polkinhorn, J. J. Richardson, E. G. Seibert, R. R. Walker, W. A. Wells.

Inactive Members: Drs. W. N. Souter, C. W. Richardson, D. K. Shute, W. H. Wilmer, Wm. H. Fox.

Meetings are held on the third Friday in each month from October to May, inclusive.

The Women's Medical Society of the District of Columbia meets the first Tuesday of each month from October to May, inclusive. Officers: President, Sophie Nordhoff-Jung; Vice President, Ada R. Thomas; Recording Secretary and Treasurer, Phebe Norris; Corresponding Secretary, Elizabeth Sohon.

The Galen Society of the District of Columbia.—Schedule of meetings, session of 1913–14:

Date.	*Place.*	*Essayist.*
1913.		
Dec. 22	Dr. Biggs, 213 Eleventh Street, S. W.	Dr. Pfender.
1914.		
Jan. 19	Dr. Tewksbury, 4200 Georgia Avenue	Dr. Biggs.
Feb. 16	Dr. Seibert, 1817 Nineteenth Street	Dr. Reichelderfer.
Mar. 16	Dr. Borden, 1801 California Avenue	Dr. Titus.
Apr. 20	Dr. Taylor, The Cecil	Dr. Stuart.
May 18	Dr. Stuart, Army and Navy Club	Dr. Bogan.
Oct. 19	Dr. Kearney, 1229 O Street	Business Meeting. President's Address.

David W. Tastet, President; Carl Henning, Secretary.

Medical History Club of Washington, D. C., 1912–1913. Officers: President, G. Wythe Cook; Vice President, W. W. Wilkinson; Secretary, H. W. Lawson, 1117 Vermont Avenue. Executive Committee: I. S. Stone, F. H. Garrison, B. M. Randolph and the officers. Members: Truman Abbe, Frank Baker, W. C. Borden, G. Wythe Cook, J. A. Foote, F. H. Garrison, Howard Hume, H. W. Lawson, G. Brown Miller, J. D. Morgan, J. B. Nichols, B. M. Randolph, C. W. Richardson, Philip S. Roy, Sterling Ruffin, I. S. Stone, Joseph Wall, W. W. Wilkinson.

Georgetown Clinical Society; twenty active members limited to graduates of the Medical Department of Georgetown University. Meets at the University Club on the second Tuesday of the month. J. Russell Verbrycke, Jr., President; John Foote, Vice President; Ralph M. LeComte, Secretary-Treasurer.

THE MEDICAL SOCIETY OF GEORGETOWN UNIVERSITY has a membership of 97 active members and meets on the second Saturday of the month at the Medical School. Officers: Wm. C. Gwynn, President; Geo. W. Wood, First Vice President; Ralph Hamilton, Recording Secretary; J. Russell Verbrycke, Jr., Corresponding Secretary.

THE HIPPOCRATES SOCIETY, membership limited to 25, with voluntary retired members after 10 years, meets on the second Thursday of the month. Officers for the year are L. M. Hynson, President; Wm. Earl Clark, Vice President; J. Russell Verbrycke, Jr., Secretary-Treasurer.

CLINICAL SOCIETY OF WASHINGTON.—Composed of 25 active members besides retired members. Officers: C. M. Hammett, President; T. A. Groover, Vice President; W. E. Clark, Secretary-Treasurer; L. A. Johnson and J. D. Thomas, Censors.

CLINICO-PATHOLOGICAL SOCIETY.—Active membership limited to 25. Inactive membership: those who have withdrawn from active membership for 15 years. A limited honorary membership of distinguished medical men. Meets on first and third Tuesdays from October to May, inclusive. Officers: W. G. Morgan, President; Sothoron Key and E. E. Morse, Vice Presidents; B. M. Randolph, Secretary and Treasurer.

THE FREEDMEN'S HOSPITAL MEDICAL SOCIETY meets on the third Tuesday of each month from October to May, inclusive. Its membership is composed of physicians connected with the Staff of the Hospital and the Medical Faculty of Howard Medical School. The present officers are A. M. Curtis, President; S. L. Carson, Vice President; C. A. Allen, Secretary-Treasurer; Committee on Program, E. A. Balloch, S. L. Carson and H. H. Hazen.

THERAPEUTIC SOCIETY of the District of Columbia.—Meets at the G. W. School of Pharmacy, 808 I Street, N. W., on the first Saturday in each month. G. W. Latimer, President; A. P. Tibbets, Secretary.

SOCIETY OF SOCIAL HYGIENE, Washington, D. C.—President, Surgeon General Stokes, U. S. Navy; Secretary, Lt. Col. J. R. Kean, U. S. Army, Surgeon General's Office. The Society has four committees, namely: Education, Venereal Diseases, Protection of Women and Children, and Psychopathology. Yearly dues, $1.00. Persons desiring to become members should address Col. Kean and state to which committee they wish to be assigned.

THE SECRETARIES of the other Medical Societies of this District are reminded that the ANNALS will publish the schedules of their meetings.

THE WASHINGTON SOCIETY OF NERVOUS AND MENTAL DISEASES has inaugurated its seventh session by re-electing last year's officers as follows: President, Dr. Tom. A. Williams; Vice President, Dr. W. M. Barton; Secretary, Dr. W. H. Hough. The Society has a limited membership but welcomes Physicians and Surgeons interested in Neurology and Psychiatry. It meets monthly on the third Thursday at the Cosmos Club or a member's residence.

THE WALTER REED MEDICAL SOCIETY meets on the fourth Thursday of every other month, from September to May inclusive. It is composed of physicians located in the eastern part of Washington. Officers: R. A. Fisher, President; E. W. Burch, Vice President; R. F. Dunmire, Secretary; J. S. Arnold, Treasurer.

THE WASHINGTON MEDICAL ANNALS. — Back numbers. — Members of the Society who have back numbers of the ANNALS, and do not intend to preserve them, are requested to send them to the Chairman of the Publication Committee. Requests for such numbers are frequently received. Address Dr. D. S. Lamb, Army Medical Museum.

OWEN BILL.—To establish a Department of Health. See *Jour. A. M. A.*, April 26, page 1320.

PRIZES.—Prizes consisting of medals in gold, gold plate, silver and bronze, also honorable mention, will be awarded by the *Societé d'Hygiene de l'Enfance*, Paris, to the best essays on the following subject: "The place that should be occupied by Puericulture and Infant Hygiene in modern education." Essays must be received before January, 1914; may be in French, English, German, Italian or Spanish; not signed, but at the head must be placed some device which is to be reproduced with the author's name and address in an accompanying sealed envelope. The essays become the property of the Society, will not be returned to the authors, who also are forbidden to publish them. The Society reserves the right not to accept any essay. The prizes will be adjudged in the annual meeting of the Society in 1914. Essays should be sent to the President of the Society, No. 10, Rue St. Antoine, Paris, before Dec. 1st.

THE C. V. MOSBY COMPANY, of St. Louis, Mo., many of whose publications have been reviewed in the ANNALS, has sent to us a copy of their latest catalogue. Copies can be procured from the publishers by those who desire to see them.

THE 19TH INTERNATIONAL CONGRESS OF AMERICANISTS.—We have been requested to invite attention to the fact that this Congress will meet in this city October 5 to 10, 1914. The

meetings will be held at the new U. S. National Museum building, under the auspices of the Smithsonian Institution, coöperating with other institutions and societies in this city. Drs. Frank Baker, G. M. Kober, D. S. Lamb and J. D. Morgan are members of the Organizing Committee. Dr. Ales Hrdlicka of the National Museum is the Secretary. The membership fee is $5.00, and the Associate Membership fee $2.50, payable to the Treasurer, Clarence F. Norment, 1851 Wyoming Avenue, N. W.

THE FOLLOWING PHYSICIANS became members of the Society prior to 1870:

Warwick Evans, 1863.	S. W. Bogan, 1865.
J. Ford Thompson, 1864.	A. Behrend, 1866.
A. F. A. King, 1864.	D. S. Lamb, 1867.
Ralph Walsh, 1864.	V. McNally, 1867.
C. E. Hagner, 1869.	

THE AMERICAN JOURNAL OF SURGERY will present in January an issue of the journal devoted exclusively to Fractures and their treatment. The following subjects will be presented by acknowledged authorities in this special branch of surgical work:

"Astragalus Injuries," by F. J. Cotton, M. D., Boston, Mass.

"Diagnosis of Fracture," by Lewis A. Stimson, M. D., New York.

"Position in the Treatment of Juxta Epiphyseal Fractures at the Hip and Shoulder," by Fred. Albee, M. D., New York.

"A Splint for Maintaining Nail Extension During Transport," by John C. A. Gerster, M. D., New York.

"Fracture of the Skull: Roentgen Ray as an Aid in Its Diagnosis," by W. H. Luckett, M. D., New York.

"Vicious Union," by James K. Young, M. D., Philadelphia, Pa.

"The Immediate and Remote Results of Fractures of the Skull and Spine," by Chas. Elsberg, M. D., New York.

"Conservation in the Treatment of Fractures," by Wm. L. Estes, M. D., So. Bethlehem, Pa.

"Some Phases of Fracture Treatment as Based on Hospital Experience," by E. S. Van Duyn, M. D., Syracuse, N. Y.

"The Treatment of Fractures," by E. P. Magruder, M. D., Washington, D. C.

REVIEWS.

HOSPITAL OF THE PROTESTANT EPISCOPAL CHURCH IN PHILADELPHIA; Medical and Surgical Reports; Volume I, Philadelphia, 1913; pp. 406; 108 plates; index.

This first volume of published records and papers is, as the number of pages and plates would suggest, quite a pretentious affair. The hospital was founded in 1851, over sixty years ago.

In addition to elaborate reports of the hospital work, there are thirty-two papers, all of them interesting and valuable. Most of them were read before the Clinical Society of the hospital, and many had been already published, especially in the *Annals of Surgery*. In so much good material, only a few things can be mentioned; the reports of the cases of benign cysts of bone, not including dentigerous cysts; the case of hatpin in the male bladder; the cases of sarcoma of vermiform appendix (including that reported by Dr. Glazebrook of this city, in the *Virginia Medical Monthly*, 1895, page 211); the 56 cases of fracture of patella; these are particularly interesting. The book is well got up and well worth reading.—D. S. Lamb.

Genitourinary Diagnosis and Therapy, for Urologists and General Practitioners, by Dr. Ernst Portner, Berlin. Translated and Edited by Bransford Lewis, M. D., St. Louis. C. V. Mosby Co., St. Louis, 1913.

This is a small volume translated from the German and edited by Dr. Bransford Lewis of St. Louis. To the English edition has been added an appendix written by Dr. Sophian, of Kansas City, on Serological Diagnosis and Specific Treatment of Gonococcic Infections. One would expect from the title a treatise on the diagnosis and therapy of diseases of the Genitourinary organs. But upon turning to the author's preface we read, " In a book confined to the consideration of therapy, it is assumed that the symptoms and *diagnosis* of the subject are understood." It would seem, therefore, that the title of the book is somewhat misleading.

We have looked through this small volume with great interest and considerable care. We confess that we have been disappointed. We are surprised that a Urologist of Dr. Lewis' eminence should find sufficient merit in this work to justify the time and labor of a translation. We believe that as a rule the general practitioner finds the treatment of Genitourinary diseases very unsatisfactory. We doubt very much that his burden will be lightened by the perusal of this book.

Unfortunately there are numerous errors which, if a second edition is issued, will doubtless be corrected.—H. A. Fowler.

Marriage and Genetics; Lales A. L. Reed, M. D., F. C. S. Applied Eugenics. By Charws of Human Breeding and The Galton Press, Cincinnati, Ohio.

This book of 178 pages and index covers the following topics: Life, Continuity of Human Life, Sexual efficiency, Character units, Inheritance, Heredity, The human norm, Growth and reproduction, Food and fecundity, Natural selection, Social diseases, The eugenic medical examination, Genetic factors. Dr. Reed is a member of the Faculty of the University of Cincin-

nati and was at one time President of the American Medical Association. The purpose of the book is in some measure "to overcome the ignorance which in too many instances keeps innocent victims from protecting themselves and their offspring from disease and degeneracy * * *, to avert many of those conditions that destroy the possible happiness of the married state and convert the bridal chamber into the anteroom of the divorce court. * * * The topics are of vital importance to every prospective husband and wife and to their unborn children." The book is written concisely and to the point, and ought to be of service to any intelligent person who is also morally disposed. The publishers say that the "publication shows the new responsibilities that the people are imposing on the medical profession in connection with new sociologic problems." The book is well worth careful reading.—D. S. Lamb.

Vaccine and Serum Therapy. By E. H. Schorer, M. D. C. V. Mosby Co., St. Louis, 1913. Second Edition.

It is difficult to express adequately the benefit that may be obtained by the study of this book which so well meets the needs of the general practitioner who has not the time to devote to a thorough study of the problems of immunity but who wishes to give his patients what benefit may be derived from vaccine and serum therapy. To answer this purpose the essentials must be set forth without too many dry details of theory and technic, and apparently this work fulfils this demand. Vaccine and serum therapy cannot be mastered without a study of the principles on which specific diagnosis and immunity are based, and there is no book which will give this knowledge without some labor on the part of the physician. The work under consideration will give this knowledge with a minimum amount of labor and time. The essential of this idea is set forth by the author in the following quotation from p. 34:

"To obtain the best assistance from the laboratory the clinician should possess enough information on the subject to properly select the laboratory man that is to make the investigation, to properly select the material to send to the laboratory and to interpret the reports he receives from the laboratory."

The discussion of immunity is clearly set forth, and a short time studying the text and diagrams will lead to a knowledge of the essentials of this part of the question. The section on specific diagnosis is neatly arranged, complete and convenient for ready reference. It deals with the available methods, points out the possibilities of each, and outlines the laboratory procedure in such a manner that no difficulty should be found even by the inexperienced in selecting the proper material for laboratory examination in any case. In this regard the work fills in the gap be-

tween the clinician and laboratory worker which usually causes so much confusion and misunderstanding.

Specific therapy is considered first on general lines and then with regard to the special diseases of both known and unknown etiology. In the part on special diseases a rational procedure for diagnosis is given in each instance by both clinical and laboratory methods so that one supplements the other, and this is followed in each case by a summary of the results which may be expected from specific treatment. Neither enthusiastic in favor of nor sceptical against the method, this part will be found of immense value in deciding whether vaccines or sera are indicated or not.

For the laboratory worker many points of interest will be found, although the book cannot, of course, take the place of special hand books and articles.

In conclusion a word concerning vaccine therapy may not be out of place. Success in this line depends in the first place upon an accurate diagnosis of the infection present. In connection with this there must be a careful co-relation of the evidence obtained from clinical observation with the principles of immunity as applied to infected individuals, and no line of treatment must be followed to the exclusion of others. In other words, vaccines are not to be considered as specific in the same sense as diphtheria antitoxin in diphtheria or salvarsan in syphilis, but they must be thought of only as a stimulus to the body to throw off by its own power the organism which is doing it harm.—R. M. Le Comte.

Laboratory Methods. By Williams and Williams. Press of C. V. Mosby Co., St. Louis. $2.50. This little book of two hundred pages represents an admirable and laudable attempt on the part of the authors to bring to the attention of the general practitioner some of the simpler laboratory tests which he may with profit to himself, with little expense in the way of laboratory equipment, and a little review of the more general medical works, apply to his daily practice in the clearing up of doubtful points, and the clinching of his clinical diagnoses. With each test is a note on its advantages and limitations, which, in general, give the practitioner a fairly correct idea of the degree of reliance to be placed on the corresponding tests. The book is in certain respects, however, not a safe guide for the practitioner to follow in every instance, since the author places upon equal terms of reliability such tests as the Widal and the diazo reactions in the diagnosis of typhoid fever, the Wassermann and the Hermann-Perutz sodium glycocholate test for the detection of lues. Likewise, in the differentiation of ordinary bacteria, the methylene blue tests are recommended, and Gram's differential method omitted. For the staining and identification of tubercle bacilli in the sputum, a modification of the Ziehl-Neelsen method is

given, which does not appear to be as accurate as the latter method, and is certainly no simpler. Among the simpler tests which should have been included in the work, is the Esbach method of estimating albumin quantitatively, as this is a simple method, the general practitioner could employ to advantage in his daily work. On the whole, for the general practitioner, for whom the book is primarily intended, the book offers many suggestions that will be of value. The chapters upon simple methods of water and milk analysis and practical detection of some of the common poisons are certainly valuable and may be perused with profit by the members of the profession, who are not located in the vicinity of the larger laboratories.—J. R. SCOTT.

RECENT PUBLICATIONS BY PHYSICIANS OF THE DISTRICT OF COLUMBIA.

T. Abbe; Surgery of the Revolutionary War; *Medical Record*, N. Y., August 16.

J. F. Anderson, P. H. S.; Organization, powers and duties of the U. S. P. H. S. today; *Amer. Jour. Pub. Hlth.*, September. Also, Federal control over the manufacture of serums and vaccines; *Jour. A. M. A.*, August 30, page 659.

N. P. Barnes; Presidential address before Amer. Therap. Society, May 5, 1913; *Maryland Med. Jour.*, November, page 269; also *Med. Cyclop.* and *Med. Bull.*, October, page 577.

W. M. Barton; Potassium permanganate; *Jour. A. M. A.*, July 19; abstracted in *Vermont Med. Monthly*, Sept. 15, page 225. Also, Observations on the action of digitalis; *Maryland Med. Jour.*, September, page 213.

Rupert Blue, P. H. S.; The public health aspects of leprosy in the United States; *Jour. A. M. A.*, Sept. 20, page 943.

N. D. Brecht; Medical relief during volcanic eruptions; *Military Surgeon*, August.

F. X. Carroll, P. H. S.; Shower bath for country houses; Supplement No. 7 to Public Health Reports, Aug. 1, 1913.

H. S. Cummings, P. H. S.; Present work and needs of the Public Health Service; *Va. Med. Semi-Mo.*, Oct. 24, page 349.

A. W. Dunbar; Modern Naval Hospital; *Modern Hospital*, September 1.

L. C. Ecker; General arterial sclerosis with aneurysm of ascending aorta; *Va. Med. Semi-Mo.*, Sept. 12, page 275.

L. Eliot; Unethical hospitals; *Va. Med. Semi-Mo.*, Sept. 26, page 307. Also Journalistic suggestions for medical writers; reprinted from WASHINGTON MEDICAL ANNALS, in *Pennsylvania Med. Jour.*, September, page 960. Also, editorials in *Va. Med. Semi-Mo.*, as follows: The abuse of the health office, Feb. 21,

page 569; The solution of the milk problem, July 11, page 179; The epidemic of bichloride poisoning, July 25, page 203; Always prepared, Aug. 8, page 233.

W. G. Erving; The treatment of the results of anterior poliomyelitis; *Va. Med. Semi-Mo.*, Oct. 24, page 341.

S. I. Franz, Chairman; Report of Committee of Amer. Psych. Assn. on Psychology and Medical Education; *Science*, Oct. 17, page 555.

L. D. Fricks, P. H. S.; Rocky Mountain spotted or tick fever; Reprint 139 from Public Health Reports, Aug. 8, 1913.

H. D. Fry; Demonstration of infant pulmotor, its use in treatment of asphyxia neonatorum; *Surg. Gynec. and Obstet.*, September.

H. C. Gore; Volatility of sulphuric acid when used in vacuum drying; *Jour. Biol. Chem.*, August.

S. B. Grubbs and B. E. Holsendorf, P. H. S., Fumigation of vessels for the destruction of rats; Reprint 132 from Public Health Reports, June 20, 1913.

T. C. Hatton; Some relations between filtered water and typhoid as shown in two years service of Wilmington filters; *Amer. Jour. Pub. Hlth.*, August.

H. H. Hazen; Leucocytes in syphilis; *Jour. Cutan. Dis.*, September and October.

V. G. Heiser, P. H. S.; A new design for a sanitary pail; Reprint 138 from Public Health Reports, July 25, 1913.

N. S. Hill and L. R. Whitcomb; Relation of water to chronic intestinal tract infection; *Amer. Jour. Pub. Hlth.*, September.

A. P. Hitchens and C. P. Brown; Bacteriology of chronic prostatitis; *Amer. Jour. Pub. Hlth.*, September.

R. A. Hooe; Tests of renal function with special reference to the phenolsulphonephthalein test; *Va. Med. Semi-Mo.*, Oct. 10, page 313.

A. J. Jennings and W. V. King; Intensive study of insects as possible etiologic factor in pellegra; *Amer. Jour. Med. Sci.*, September.

A. F. A. King; Uterine carcinoma, another hypothesis as to its cause and prevention; *Surg. Gynec. and Obstet.*, September.

F. Knab; Anopheles and malaria; *Amer. Jour. Trop. Dis.*, September 1.

C. H. Lavinder, P. H. S.; Pellagra, prevalence and geographic distribution in Arkansas, Oklahoma and Texas; Reprint No. 137 from Public Health Reports, July 25, 1913.

H. C. Macatee; The cohesive function of the Society Secretary; *Penna. Med. Jour.*, October, page 10.

E. P. Magruder; Infantile paralysis affecting the lower extremities, its surgical treatment and possibilities of cure; *Jour. A. M. A.*, Nov. 8, page 1705.

W. J. Manning; A form of treatment in a case of lupus vul-

garis and pulmonary tuberculosis; *Va. Med. Semi-Mo.*, Oct. 10, page 318.

Medical and Surgical Society, D. C.; Proceedings; Same journal, Sept. 12, page 277.

R. B. Meller, U. S. A.; The sanitary record of the Second Division U. S. Army in Texas; *Jour. A. M. A.*, Oct. 4, page 1293.

J. F. Mitchell; Local anesthesia; Same journal, Sept. 13, page 842. Also, Surgical aspects of purpura; *Annals of Surgery*, August.

M. G. Motter and M. I. Wolbert, P. H. S.; Digest of comments on the Pharmacopoeia of the United States, 8th decennial revision, and the National Formulary, 3d edition, for 1911; Hygienic Laboratory, Bull. 87, August, 1913.

S. B. Muncaster; Orbital cellulitis caused by staphylococci; *Ophthal. Rev.*, August.

H. H. Newman; A sporadic case of typhus fever; *Jour. A. M. A.*, Nov. 1, page 1629.

H. J. Nichols and W. H. Hough; Inoculation of rabbit, &c., *Jour. A. M. A.*, July 12; abstracted in *Vermont Med. Monthly*, Sept. 15, page 228.

J. A. Nydegger, P. H. S.; The desirability of nationalizing the Baltimore Quarantine Station; *Maryland Med. Jour.*, November, page 279.

A. R. Perry; Recent contribution of Federal Government to preventive medicine and health conservation; *Amer. Jour. Pub. Hlth.*, September.

B. M. Randolph; Vaccine treatment of typhoid; *N. Y. Med. Jour.*, September.

C. W. Richardson; Congenital osseous obstruction of post-nasal orifices; *Annals Otol. Rhinol. and Laryngol.*, June.

J. L. Riggles; Premature menopause; *Va. Med. Semi-Mo.*, Sept. 26, page 302.

P. S. Roy; Nursing ideals; Same journal, Oct. 24, page 354.

F. F. Russell, U. S. A.; Progress in antityphoid vaccination during 1912; *Jour. A. M. A.*, Aug. 30, page 666.

F. F. Russell, C. F. Craig and H. J. Nichols, U. S. A.; Studies of syphilis; Bull. No. 3, June, War Dept., U. S. A.

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A. Seidell; Colorometric determination of epinephrin in dessicated adrenals; *Jour. Biol. Chem.*, August; abstracted in *Jour. A. M. A.*, Sept. 13, page 897.

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C. Thorn and J. N. Currie; Dominance of Roquefort mold in cheese; *Jour. Biol. Chem.*, August.

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J. R. Verbrycke; Gastrosuccorrhoea continua periodica; *Southern Med. Jour.*, September, page 613.

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C. S. White; Retrocalcanean bursitis; *N. Y. Med. Jour.*, August 9. Also, Ovarian teratoma; *Amer. Jour. Obstet.*, August.

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PERSONAL NOTES.*

E. S. Bogart, U. S. Navy, ordered to Naval Medical School.

J. A. Clark, Med. Corps, U. S. A., ordered to Walter Reed Hospital.

G. B. Crow, U. S. Navy, is at the U. S. Naval Medical School.

L. C. Duncan, Med. Corps, U. S. A., transferred to Fort Bliss, Texas.

G. F. Freeman, U. S. Navy, transferred to North Carolina.

Alfred C. Girard, U. S. Army, married October 8 to Miss Charlotte Epping.

J. D. Glennan, Med. Corps, U. S. A., is Professor of Administration in Army Medical School.

E. J. Grow, U. S. Navy, transferred to the Naval Medical School.

H. B. Hedin, M. R. C., U. S. Navy, transferred to Naval Medical School.

C. N. Howard, formerly of this Medical Society, now at Warsaw, Ind., has been made Secretary-Treasurer of the Thirteenth District Medical Society of Indiana.

J. R. Kean, Med. Corps, U. S. A., transferred to Fort Leavenworth, Kan.

Ernest Laplace, of Philadelphia, gave a surgical clinic at the Georgetown University Hospital, October 30, in honor of the twenty-fifth anniversary of the Medical and Surgical Society, D. C.

J. W. Lindsey, of this Society, was married July 10 to Miss Catherine Armyn Crabill of San Antonio, Mo.

C. P. Lynch, U. S. Navy, transferred to Naval Medical School.

C. C. McCulloch, Med. Corps, U. S. A., is Professor of Military and Tropical Medicine at the Army Medical School, and Librarian of Library, S. G. O.

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*Most of the information under this head has been taken from the *Journal A. M. A.*

W. H. Moncrief, Med. Corps, U. S. A., has been transferred to the Walter Reed Hospital.

F. L. Pleadwell, U. S. Navy, transferred to the Naval Dispensary.

F. F. Russell, Med. Corps, U. S. A., transferred to New York City ; Attending Surgeon.

H. N. and P. S. Bourdeau-Sisco, of the Washington Sanitarium, have removed to Baltimore.

G. T. Smith, U. S. Navy, transferred to Navy Yard.

L. W. Spralling, U. S. Navy, transferred to Atlanta, Ga.

C. W. Stiles, Hygienic Laboratory, detailed to attend farmers' meetings in North Carolina and Alabama, to lecture on rural sanitation and the prevention of disease.

E. N. Talbott, Med. Corps, U. S. A., detailed as Professor of Ophthalmology at Army Medical School.

E. B. Vedder, Med. Corps, U. S. A., on duty at Army Medical School, and Assistant Curator, Army Medical Museum.

W. A. White and S. E. Jelliffe, are the editors of "The Modern Treatment of Nervous and Mental Diseases;" 2 vols., cloth, price $6 net per volume. Published by Lea and Febiger, Philadelphia, 1913.

E. R. Whitmore, Med. Corps, U. S. A., is Professor of Bacteriology and Pathology at the Army Medical School, and also Curator of Army Medical Museum.

C. L. Williams, P. H. S., is detailed for duty at the Hygienic Laboratory.

M. W. Wood, Med. Corps, U. S. A., detailed for duty at Washington Barracks.

W. C. Woodward was elected President and J. F. Anderson (P. H. S.), a Vice President of the American Public Health Association, at the meeting September 9 to 12, at Colorado Springs.

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